

Appendix A:

Key public health problems

Introduction

Most people are familiar with health problems on an individual basis. Even if they have not been directly and personally affected by cancer, heart disease, injuries, measles, herpes, hepatitis, or food poisoning, they probably don't have to look too far in their circle of family and friends to find people whose lives have been tragically altered by such problems.

These are not just personal, individual health problems, however. They have wide-ranging impact on people in families, neighborhoods, workplaces, classrooms—any setting in which people come together and interact. The physical and emotional effects of these problems can extend far beyond the individual who is most primarily affected. These are, therefore, public health problems. The ways in which we treat them, and even more importantly the ways in which we prevent them, must pay attention to this public side of health.

This appendix to the Public Health Improvement Plan discusses thirty-nine key public health problems in five general areas:

- *Infectious Disease*
- *Non-Infectious Disease*
- *Violence and Injury*
- *Family and Individual Health*
- *Environmental Health*

The causes of public health problems are in some cases clear and unmistakable; in other cases they are complex and not completely understood. Since public health problems affect not just individuals, but entire neighborhoods, communities, and populations, their effects are not uniform throughout the state. Some locales and some groups of people are more severely impacted. For these reasons, the approaches to solving some of these problems can be complicated and subject to serious debate.

The key problems discussed here are by no means the only ones which should receive public health attention now or in the future. They are, rather, a representative sample of current, persistent, preventable problems that have been identified as significant in many communities throughout the state. For each of the 39 problems, this appendix contains background materials, standards, and possible interventions.

Outcome standards

The connections between public health activities and health improvements are difficult to quantify on a case-by-case basis, especially since there are other major influences on health, including behavior, medical care, and socioeconomic factors. The Public Health Improvement Plan, nevertheless, sets long term objectives, or outcome standards, for improved health status of the people who live in Washington State, at the same time recognizing that the public health system is not, and should not be, solely responsible for achievement of these objectives.

The outcome standards are long-term objectives, generally for the year 2000. They define optimal, measurable future levels of health status, maximum acceptable levels of disease, injury, or dysfunction, and in some cases the degree to which a particular service or program is operational. Many of the outcome standards in this appendix are identical in subject matter to the national year 2000 health objectives contained in Healthy People 2000. The actual quantitative objectives for Washington will most often be different from those for the nation, since the baselines are usually different.

Threshold standards

Thresholds deal with exactly the same subject matter as outcome standards. They most often define death rates or levels of illness or injury in a community or population which, if exceeded, may signal alarms for action. The initial response to exceeding a threshold is not immediate intervention, but rather a closer look at the situation to determine what may be occurring. Additionally, a threshold is a way of measuring if there is reasonable progress toward an established outcome standard.

There are two types of thresholds: trend-based and group-based.

Trend-based thresholds (same population, different years). This type of threshold is a measure of progress toward a target, over time, for a given population. It compares data for a given year to an expected or desired value for that year. The most straightforward way to establish the expected or desired value is linear interpolation between a baseline data point and the outcome standard. This gives a series of expected data points for each intervening year. The determination of whether a threshold has been exceeded for a given year involves applying statistical tests to see if the actual data point differs significantly from the expected data point.

Group-based thresholds (same year, different populations). This type of threshold measures how one group is doing compared to one or more other groups during the same time period. Usually it measures whether a rate for a sub-group is significantly different from the rate for the population as a whole. The sub-groups are often specific racial or ethnic groups. They may also be the entire populations of relatively small geo-political areas such as counties.

The concept of threshold standards is a new one that is still being developed as part of the Public Health Improvement Plan. The intent is to develop methods of applying the concept that can be used by public health jurisdictions throughout the state. Appendix B has more detail on how to establish thresholds and determine whether they have been exceeded. There is also a detailed discussion of some recommended statistical methods, including calculation and use of confidence intervals. After December 1994, threshold standards and their applications will continue to be developed.

Interventions

The interventions proposed in this appendix are not the only ones which might be effective, but they do represent ideas for action which were developed over a period of several months by a large group of people representing a variety of professional and community perspectives. For the most part, these interventions are not easily-counted functions and processes. Most often the clients served are the entire population of the state or some large sub-group of that population. The responsibility for implementing the interventions lies not just with public health departments and districts, but with many other agencies and organizations as well. Public health is truly a community interest, and efforts to protect and promote public health must involve numerous participants in every community.

The development of this section involved hundreds of people. For each of the five general areas, there was a Public Health Improvement Plan Technical Advisory Committee subcommittee with representatives from many organizations and diverse expertise. Within each area, numerous people were involved in proposing, discussing, writing, and reviewing the background material, the proposed standards, and the proposed interventions to address such diverse subjects as tuberculosis, breast cancer, tobacco use, homicide, domestic violence, infant mortality, nutrition, drinking water, and hazardous substances. In addition to public health professionals, this process involved many people and organizations outside public health agencies.

The proposed 1995-97 biennial budget for the State Department of Health contains six goals and 49 objectives as the measures against which the department's performance should be gauged during biennium. Five of the six goals relate to the five general health problem areas listed in this appendix, and most of the 49 objectives are drawn directly from the outcome standards. These goals and objectives are listed in Appendix A.

Infectious disease

Cost effective health system reform cannot be achieved without effective control of infectious diseases, which are of concern because of the emergence of new illnesses and the resurgence of old enemies such as tuberculosis. Most outbreaks of infectious disease are preventable through surveillance, education, sanitation, vaccination, and primary and secondary preventive treatment. For certain infectious diseases, primary prevention strategies include early diagnosis and treatment because such activities reduce the duration of infectiousness and thereby the rate of transmission in the community.

This report describes and develops standards and intervention strategies for the following infectious diseases:

- *HIV/AIDS*
- *Sexually transmitted diseases (STDs)*
- *Tuberculosis*
- *Vaccine preventable diseases*

There are, however, many other infectious diseases that could be better controlled if consistent preventive programs were in place. Foodborne and waterborne illnesses such as E. coli, salmonellosis, giardiasis, and cryptosporidiosis are addressed in the Environmental Health section of this appendix. Vector borne illnesses such as toxoplasmosis, Lyme disease, rabies, relapsing fever, tick paralysis, tularemia, and the newly emergent hantavirus will continue to grow in importance as humans and animals come into closer proximity with each other. These illnesses will be addressed in future reports, along with influenza, hepatitis A and C, amebiasis, legionellosis, meningococcal disease, shigellosis, as well as nosocomial infections and zoonoses such as psittacosis.

Public health programs and their preventive health strategies were first developed to stop the epidemics of infectious diseases such cholera, smallpox, typhoid, and yellow fever. These efforts were highly successful, but made public health programs easy targets for budget cuts. The resulting erosion of basic public health programs has impeded public health's ability to deal with the emergence of new diseases and has allowed the reemergence of epidemics of infectious diseases.

Other factors contributing to the spread of infectious diseases include:

- *Changes in sexual behavior*
- *Drug abuse*
- *Increased travel and immigration*
- *Poor access to preventive clinical services*

The occurrence and prevalence of some infectious disease such as HIV/AIDS is driven by complex social issues such as poverty, racism, substance abuse, and sexual orientation discrimination. Such diseases require multifaceted public health interventions and strategies. Such strategies need to move beyond an individualistic approach to one which acknowledges social and personal realities and relationships.

The prevention of infectious disease requires multi-disciplinary intervention. Such expertise is needed from all levels of public health: government agencies, the medical community, community-based agencies, volunteer and private groups, and the educational system. The affected communities must be involved in the development and

implementation of interventions. Finally, the public health infrastructure needs to be maintained and enhanced in order to more effectively prevent infectious disease and to respond to yet unidentified diseases.

HIV/AIDS

In 1991, HIV/AIDS was the third leading cause of death in Washington State for adults aged 25 - 34 years. For some subpopulations in certain communities, HIV/AIDS is the leading cause of death, for example, in King County for men aged 25 - 44 years during 1990.

The cost of medical care for persons with HIV has been estimated at \$119,000 from the time of infection until death. As of September 1993, 822 AIDS cases diagnosed in 1992 had been reported to the State Department of Health. The estimated cost of care for these 822 people is more than 97 million dollars.

In the United States an estimated 22.7 AIDS cases per 100,000 population were diagnosed in 1992. An estimated 393 persons per 100,000 population are infected with HIV. While the estimated incidence of AIDS in Washington State is significantly below the national estimate, national data are heavily influenced by certain epicenters of infection (California, the District of Columbia, Florida, New Jersey, and New York). Washington State ranks in the upper third of states nationally for cases reported.

As the second decade of the HIV/AIDS pandemic progresses, Washington State stands in a precarious position. While we have not been as severely affected as the epicenters of the epidemic, lessons learned from other cities and states make it clear that increased focus on prevention and care is urgently needed.

Estimates suggest that between 10,000-20,000 Washington State residents are currently infected with HIV. If a cure is not discovered, most of these people are expected to die of HIV-related infections and diseases.

Two behaviors—unprotected sexual intercourse with an HIV-infected partner and the sharing of HIV-contaminated drug injection equipment—are responsible for the majority of HIV infection in Washington State to date. Currently, transmission of HIV through blood transfusions and improper or accidental breakdown of infection control practices occur rarely, but will need to be monitored.

As of September 1993, 75% of AIDS cases in Washington State have occurred in homosexual and bisexual men with no other source of exposure, with an additional 11% of cases in gay/bisexual injection drug users. Sexually transmitted disease trends and behavioral data on relapse to unsafe behavior in some populations suggest that renewed efforts to confront risk behaviors in this population are needed.

Impediments to the adoption of safer behaviors include denial of risk, cultural unacceptability of condom use and sexual abstinence, ambivalence about sexuality, social stigma regarding HIV and AIDS, lack of access by youth to safer sex materials, and lack of access to sterile injection equipment by drug users.

Homosexual/bisexual men (both with and without injection drug use) currently comprise the great majority of Washington AIDS cases. However, national epidemiological trends serve to warn us that prevention strategies cannot be ignored in other populations at risk

(people of color, women, youth, and heterosexual injection drug users), even though they now account for less than 15% of AIDS cases. For example, African Americans comprise three percent of the current state population, but represent eight percent of the current AIDS case load.

Recent statistics suggest that the epidemic is rapidly making inroads among groups such as injecting drug users, and heterosexuals. Cases reported among women have doubled in the past three years, and HIV-infected pregnant women pose a risk of disease transmission to fetuses and infants.

Populations at higher risk of HIV include women and male receptive sexual partners, sexually active youth and young adults who have not formed long-term relationships, intravenous drug users, and persons with other sexually transmitted diseases. HIV (and other STD) morbidity is driven by complex social conditions (such as poverty, racism, substance abuse, and sexual orientation discrimination). Prevention and control of HIV will require multifaceted programs that address these intertwined social issues.

Further complicating the HIV epidemic is the lack of reliable population-specific data on disease transmission patterns and behaviors.

Health behavior research confirms that messages regarding sexual safety must be consistent, highly visible, and targeted explicitly to the populations for which they are intended. Generic, broad based campaigns may be helpful in raising public awareness, but have been demonstrated as ineffective in influencing behavior change. In particular, interventions targeting gay and bisexual men must address the complicated behavioral and psychological factors which contribute to relapse to unsafe sex, as well as provide explicit sexual information to younger gay and bisexual men who may not have had access to previous campaigns.

In the absence of a vaccine or cure, access to medical care, social services, and health maintenance information is vital to the delay of HIV-related morbidity and mortality. This includes programs such as insurance continuation funds, extended case management services, access to general health care, and programs geared to maintaining wellness in HIV-infected individuals.

Finally, improvements in public health assessment capacity are necessary to monitor the movement of the virus in communities, especially outside the Seattle-King County metropolitan area, and in populations known to be at behavioral risk but currently with a low prevalence of disease.

Intervention strategies for HIV/AIDS include:

- Improve epidemiological and behavioral assessment capability. Periodically reexamine the usefulness of HIV reporting to improve public health's assessment capability.*
- Evaluate and articulate the public health rationale for strengthening state and local laws and ordinances against discrimination based on sexual orientation.*
- Prevent transmission of HIV infection through educational activities and improved access to services.*
- Focus preventive education on the individual, the family, and the community, including the workplace. Educational interventions would include information on*

sexual safety, personal responsibility, sexual abstinence or delay, correct and consistent use of condoms, the value of HIV testing, prevention of injection drug use, needle/syringe sterilization procedures, infection control practices, and awareness of HIV risk.

- *Provide targeted education to persons whose behaviors or personal circumstances place them at increased risk of HIV, and include a skills-building component. Messages must be explicit, consistent, population specific, and culturally relevant.*
- *Improve access to and consistent and correct use of disease prevention materials in order to prevent acquisition or transmission of HIV among persons who are sexually active or who use injection drugs. These materials include: latex condoms and other latex barriers and education on correct use; sterile drug injection equipment; and printed or other materials and information on sexual safety.*
- *Educate health care providers to assess all clients for their risk of HIV and offer necessary prevention and clinical services.*
- *Improve access to services which increase individual knowledge of HIV serostatus and improve referral to and receipt of other prevention and treatment services. These services include confidential HIV counseling and testing; HIV-related health, social and community services; and drug treatment including methadone services. To be effective, these services must be provided in a manner that is culturally relevant and protects the civil rights of those infected with or at risk of HIV.*
- *Promote the use of medically appropriate antiviral therapies to prevent transmission of HIV infection (e.g. with pregnant women) and other drugs and therapies to prevent or delay associated illness and death.*
- *Provide public health interventions, such as programs to assure notification of persons exposed to HIV, to help target prevention education and risk reduction programs and to facilitate access to health and social services by HIV-infected persons.*
- *Control other sexually transmitted disease which facilitate the transmission of HIV.*

The interventions and strategies listed above are consistent with the Centers for Disease Control and Prevention's Strategic Plan for Prevention of HIV Infection, July 9, 1992, and other national guidelines. Numerous studies and research projects have addressed the efficacy of these educational, access, and public health interventions.

To be effective, educational interventions should be directed toward persons whose behavior or personal circumstances place them at increased risk of HIV. The World Health Organization estimates that it is 50 times more cost efficient to provide education targeted at high risk individuals than to intervene later in the general population.

HIV/AIDS standards

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Year(s)	Baseline Rate	Year 2000 Target Rate
Prevalence of HIV Infection	1992	15,000 (est)	293	293	1989	400 (est)	800
Prevalence of HIV infection in women giving birth to live-born infants	1989-92	87	31	30	1989	150 (est)	100
Incidence of STDs							
Chlamydia*	1992	11,762	230	170	1989	NA	NA
Gonorrhea*	1992	4,169	82	60	1989	300	225

*Rates for these diseases should be monitored by subpopulation (age group, racial/ethnic group, gender) with application of the state standard to those subpopulations.

	Washington State			United States		
	Year(s)	Baseline Count/%	Year 2000 Target Count/%	Baseline Year	Count/%	Year 2000 Target Count/%
Annual incidence of diagnosed AIDS	1992	878*	900	1989	44,000-50,000 (est)	98,000
Reported cases of male rectal Gonorrhea	1992	51	50	NA	NA	NA
Percent of youth in grades 10 & 12 who report never having sexual intercourse						
Grade 10	1992	60%	75%	NA	NA	NA
Grade 12	1992	41%	50%	NA	NA	NA
Percent of sexually active youth in grades 10 & 12 who report never having sexual intercourse	1992	56%	75%	NA	NA	NA

* As of August 1, 1994

All rates are per 100,000 resident population.

Sexually transmitted diseases

Sexually transmitted diseases are far more common than most people realize. Genital herpes alone infects about 25 percent of the U.S. population, and it is probable that at least half of all Americans acquire an STD by age 30.

Sexually transmitted diseases (STDs) are the most commonly reported infectious diseases in Washington State. In 1992, more than 23,000 cases of STDs were reported. STDs cause significant disability and suffering, but are seldom fatal because of the effective treatment regimens for the bacterial STDs.

STD morbidity is driven by very complex social conditions, including poverty, racism, substance abuse, crime, family disruption, and media influences. Multifaceted programs are required to address these intertwined issues. Women and children suffer a disproportionate share of STD morbidity and long-term complications. STDs also affect different segments of society at differing rates. Racial and ethnic minorities, adolescents and young adults, and certain urban and rural populations have far higher rates of infection than the state average.

All STDs share common mechanisms of transmission, epidemiology, risk groups, and potentially effective interventions. The five STDs addressed in this section can be divided into two categories: bacterial infections and viral infections. There are curative therapies for the bacterial diseases, but no effective cure has been discovered for the viral diseases, which persist for the lifetime of the infected person.

Bacterial STDs

Chlamydia is the most common bacterial STD in the United States and in Washington. Until recently, diagnostic tests were expensive, so screening of large populations was too costly. Washington State has been able to initiate special screening projects with limited resources in family planning and STD clinics throughout the state, reducing the rate of infection in women in family planning clinics by over 60%.

Reported gonorrhea has been decreasing for the past seven years, and the reported rate per 100,000 is the lowest since 1962. Gonorrhea can be prevented and controlled through screening, early diagnosis and treatment, partner follow-up, and prevention education in high-risk populations. The emergence of strains of gonorrhea resistant to penicillin and other antibiotics indicates that gonorrhea will continue to be a public health problem unless active surveillance and control programs are maintained.

Syphilis has been well studied and has been a primary focus of public health efforts for the past half century. The incidence of new cases in the 1980's reached epidemic proportions. In the past two years, the number of reported cases of primary and secondary syphilis declined for the first time since 1985. While it is still not clear precisely why this decline has occurred, there is little doubt that the epidemic was in large degree related to drug use and prostitution—particularly the selling of sex for drugs and the practice of having multiple anonymous sexual partners.

Viral STDs

HIV and hepatitis B, two important viral STDs which are also transmitted through other paths, are discussed in detail in other sections of this report.

Human Papillomavirus (HPV), more commonly known as genital warts, is a very common sexually transmitted viral disease. Routine Pap smears at Planned Parenthood generally demonstrate that approximately 3% of patients screened have HPV. To some extent, it seems that the epidemiological data accumulated so far have served to confuse as much as clarify the issue of HPV prevalence, its association with cervical cancer. Factors contributing to the distribution of genital HPV's in the general population appear to be more complex than originally thought.

Herpes Simplex (HSV-2) virus causes recurrent painful ulcerative lesions of the genital and perianal area, yet half of all infections are asymptomatic. Present treatment only limits the severity of the symptoms and the number of recurrent outbreaks. Genital herpes became legally reportable in Washington State in 1987, with only the initial genital infection being counted. In 1992 over 2,000 cases were reported, but this figure represents a very small percentage of the true incidence of initial genital herpes. Data suggest that over 20% of all Americans acquire HSV-2 by age 30. Genital herpes causes significant pain and suffering. Diminished transmission and infection would decrease the demand on primary medical care practitioners and could have a significant impact on the rate of primary and repeat Caesarean section deliveries.

Intervention strategies for both bacterial and viral sexually transmitted diseases include:

- Conduct programs to accurately assess the incidence and prevalence of selected STDs in the community, recognizing that clinician-based and laboratory-based reporting are incomplete. Sentinel surveillance, universal screening at selected sites, and better information management systems can contribute to this goal.*
- Provide statewide and local information and data within the requirements of confidentiality to health districts, departments, and community groups concerning STD rates and problems for program planning and implementation.*
- Provide age-appropriate and culturally sensitive comprehensive K-12 sex education (including self esteem training, refusal skills, anatomy and physiology, contraception, and disease prevention).*
- Encourage primary prevention of infections through consistent and correct use of latex condoms and other latex barriers.*
- Increase awareness of STD signs and symptoms and the often asymptomatic nature of many STDs.*
- Teach parents how to discuss sexual health with their children.*
- Develop community-based educational interventions aimed at high risk groups to reduce the risk of STD transmission.*
- Increase education and counseling for adolescent groups regarding safe sex, abstinence, and postponement of sexual activity.*
- Maximize the referral and treatment of the sexual partners of persons with selected STDs, especially chlamydial infection, gonorrhea, and syphilis.*
- Provide publicly funded training in STD epidemiology, clinical recognition, screening, diagnosis, partner referral, and education for clinicians and clinical facilities that serve populations at risk for STD.*
- Promote and provide resources to support hepatitis B vaccination among sexually active teenagers and young adults.*
- Generate resources to assure cost-effective treatment of patients with STDs, using single-dose therapy wherever applicable.*
- Expand outreach to provide limited clinical services and risk reduction counseling to persons at risk for STDs outside traditional clinical settings, such as in school-based clinics, recreation centers, and detention facilities.*

The main serious outcomes of STDs, which the above strategies seek to prevent, are female infertility, ectopic pregnancy, other adverse pregnancy outcomes, serious infections of the fetus and newborn, cervical cancer, and the potential for enhanced transmission of HIV infection.

Prevention of STD morbidity requires a comprehensive program of case detection through such activities as screening high-risk populations and partner notification; promulgation of and adherence to standardized treatment regimens whose efficacy is well documented; analysis of morbidity trends and the epidemiology of STDs to help target prevention activities and resources; education of persons at risk and the training of health professionals; and assurance that all patients at risk have access to the clinical services necessary to achieve these goals.

The special characteristics of STDs and of the populations most at risk, the number of patients requiring services, and the need for services on demand make it difficult to integrate STD management into general medical care settings. The cost savings in preventing a modest number of cases of infertility, cervical cancer, or HIV would more than pay for the continued use of categorical STD clinics in combination with family planning clinics throughout the state.

Patient counseling for prevention and partner referral, especially for chlamydia, gonorrhea, and syphilis, should be available from all health providers, and has been shown to be cost-effective.

Education of the medical community will help maintain standards of care. Education of individuals will support behaviors which will reduce risk of acquiring STDs. Education of families will affect their children's adult sexual behavior.

Sexually transmitted disease standards

Incidence of specified sexually transmitted diseases	Washington State				United States			
	Baseline		Year		Baseline		Year	
	Year(s)	Count	2000 Target Rate	Rate	Year	Rate	2000 Target Rate	Rate
Chlamydia	1992	11,762	230	170	NA	NA	NA	NA
Gonorrhea	1992	4,169	82	60	1989	300	225	
Primary and secondary syphilis cases	1992	85	1.7	1.0	1989	18.1	10.0	
Human Papillomavirus*	NA	NA	NA	NA	NA	NA	NA	
Genital Herpes	1992	2,253	44	35	NA	NA	NA	

* Data are not available to establish standards in this area.

The completeness of reported data for STDs varies by specific disease. Diseases that have a laboratory reporting component are believed to be more complete than those that do not. In addition, program activities to promote more complete reporting can influence cases rates from year to year.

Behavioral standards presented in the HIV/AIDS problem area will also be evaluated as indicators of progress or the need for increased action.

All rates are per 100,000 resident population.

Tuberculosis

Tuberculosis (TB) is a serious infectious disease which is spread almost exclusively by airborne transmission of bacteria. Although the disease can affect any site in the body, it most often affects the lungs. Approximately 29 percent of people who come in close contact and 15 percent of other contacts will be infected by a person with untreated infectious TB.

Tuberculosis can be prevented and successfully treated with antibiotics. Once a major cause of illness and death, it became relatively uncommon but is now on the increase, both nationally and in Washington State. The resurgence of TB incidence in Washington began in 1984, after three decades of steady decline. Each year since 1984 there has been an increase in cases reported in Washington, from 207 active cases (4.8 per 100,000) in 1984 to 309 active cases (6.0 per 100,000) in 1992—a 48% increase in the number of cases reported.

An ominous aspect of the problem is the recent occurrence of outbreaks of multidrug-resistant TB (MDRTB). This poses a serious public health problem and requires rapid intervention. In 1993, there were five cases of MDRTB reported in Washington. Preventative therapy for TB costs about \$150 per case. Treatment costs about \$1,000 per case. These costs escalate to about \$200,000 per case for treatment of a MDRTB case.

Another particular concern is the threat of TB to children, in whom the disease is far more invasive and who are vulnerable to neurological damage and death. In 1993 there were 14 cases of TB in children under 5 years of age.

Increased numbers of individuals in high risk populations, such as homeless people, individuals infected with HIV, undiagnosed and infected immigrants, and populations in long-term care facilities will further complicate the TB problem.

Healthy persons can develop latent TB when they become infected with the bacteria and are not able to eliminate the infection. They have no symptoms and cannot spread TB to others, but remain infected for years. Usually a positive TB skin test is the only evidence of infection. It is estimated that 650,000 people in Washington have latent tuberculous infections. About 5% of otherwise healthy persons with latent tuberculous infection will become ill with active TB at some time during their lives.

Laboratory tests are necessary to determine the infectiousness of a patient. Because of the recent resurgence of TB as a public health concern, sophisticated diagnostic methods have become an important tool for rapidly identifying cases. In Washington, 27% of the laboratories involved in culturing TB have the ability to identify the organism, but less than 13% use new diagnostic methods.

Routine preventive treatment for infected individuals without active TB is 6 months of relatively inexpensive drug therapy which will prevent the emergence of active TB. However, if the infection is not treated, active disease may develop and a more extensive and costly course of drug treatment must be undertaken. If resistance to the first line anti-tuberculosis agents develops, then second line agents, which are still more expensive and more toxic, must be used. Compounding the seriousness of the increase in TB cases has been the appearance of TB strains resistant to conventional anti-tuberculosis therapy.

The resurgence of TB has not affected the general population equally. Rather, it has been clustered among certain high-risk populations. There is a clear relationship between the number of TB cases in a community and the income level and availability of adequate

and appropriate housing. In Washington 7% of persons with TB cases are homeless. About 14% of Washington's 1,298,246 children (under the age of 20) live in households with incomes below the official federal poverty level. This is an increase from 11.5% in 1979 and 9.8% in 1969.

TB is found in ethnic groups and foreign born persons at case rates that are of concern. In Washington, the case rate is 1.3/100,000 in Caucasians, while it is 38.0 in Asian and Pacific Islander groups, 16.1 among Native Americans, and 12.6 among African-Americans.

An issue in TB control is the lack of adequate information about foreign born individuals. Currently, 57% of TB cases (October 1993 year to date) in Washington are individuals born outside of the United States. It is known that the recent immigrants in Washington are primarily from the Pacific Rim and often from regions with high TB rates and/or have received inadequate treatment.

The TB case rate within Washington prisons is 39/100,00, and there are more cases in jails than in prisons. In Washington, 28% of those entering prisons are infected with TB. At this time, TB testing is mandatory for all prison inmates. There has been a 13-17% increase per year in the total number of inmates in Washington prisons, from 6,419 in 1989 to 9,994 in 1992.

The incidence of active TB in HIV-infected patients is, according to Centers for Disease Control and Prevention data, nearly 500 times the incidence in the general population. HIV/AIDS is implicated in five percent of Washington's TB cases.

Individuals of advanced age often have conditions (e.g. immune compromised) known to increase the risk of active disease once infection has occurred.

Intervention strategies for tuberculosis include:

- Assess the prevalence, incidence, and socio-demographic characteristic of cases and infected persons in the community.*
- Review each new tuberculosis case and each death from tuberculosis to determine if the case or death could have been prevented had the American Thoracic Society/CDC recommendations been followed.*
- Promote screening, diagnosis and prevention of TB in all health care facilities.*
- Establish active preventive intervention programs.*
- Screen 90% of primary immigrants and 75% of secondary (those originally entering the U.S. in another state) immigrants.*
- Conduct annual tuberculin skin-testing programs among the staffs of TB clinics, mycobacteriology laboratories, shelters for the homeless, nursing homes, substance-abuse treatment centers, hospitals, and dialysis units.*
- Provide rapid laboratory diagnosis and reporting and assure compliance with directly observed therapy (DOT) and directly observed preventive therapy (DOPT).*
- Assure that 90% of persons with signs and symptoms suggestive of tuberculosis receive an appropriate diagnostic evaluation within 2 weeks of initial contact with a health-care provider.*
- Develop a specific treatment and monitoring plan within 4 days of diagnosis including, when necessary, health and social service incentives to assure treatment.*
- Assure that suspected or diagnosed cases are reported to health departments within 3 days of the time the diagnosis is made*

- *Implement active population-specific case finding to identify groups of people in the community among whom tuberculosis and transmission of infection are occurring.*
- *Where non-compliance is demonstrated, use community outreach workers to provide DOT/DOPT when necessary and appropriate.*
- *Develop a discharge plan including provision of support services such as housing, substance abuse treatment, psychiatric care, and other social services prior to discharge of patients detained for treatment.*

Tuberculosis standards

	Washington State				United States		
	Baseline		Year		Baseline		Year
			2000 Target				2000 Target
	Year(s)	Count	Rate	Rate	Year	Rate	Rate
Incidence of tuberculosis	1993	286	5.5	2.0	1988	9.1	3.5
Children under the age of 5 years.	1993	14	3.8	1.0	NA	NA	NA

All rates are per 100,000 resident population.

Vaccine-preventable illnesses

The potential for becoming infected with vaccine-preventable diseases such as measles, mumps, rubella, pertussis, diphtheria, tetanus, hemophilus influenzae type b (Hib), influenza, pneumococcal disease, and hepatitis B (HBV) exists for all persons within Washington State who are not age-appropriately immunized against them. Influenza, pneumococcal disease, and hepatitis B account for the majority of vaccine-preventable deaths in the United States.

A 1994 survey revealed that only 56% of Washington State preschool children were current for three primary immunizations by their second birthday (four DTP, three polio and one MMR). This was a retrospective survey looking at records of kindergarten-aged children to see if they were appropriately immunized when they were age 0 through 23 months, based on the standard in effect at that time. A preschool child is now considered current if he or she has had four DTP, three polio, four Hib, one MMR, and three hepatitis B immunizations by the age of two.

Unimmunized children and adults are susceptible during disease outbreaks, as evidenced by the number of measles cases reported between 1989 and 1991. Many adults with influenza-related complications are admitted to hospitals. In the United States there are an estimated 10,000 to 40,000 excess influenza deaths each year, the majority among persons over 65, almost all of whom have not been immunized. Pneumococcal infections cause 40,000 deaths annually and as many as 120,000 hospitalizations. Four to five thousand deaths occur each year as a result of chronic hepatitis B-related liver disease and primary liver carcinoma.

Immunization with hepatitis B vaccine is the most effective means of preventing HBV infection and its consequences. In the United States, most HBV infections occur among adults and adolescents, with approximately 300,000 new cases each year. Of these, 5-10 percent progress to the chronic carrier state, capable of infecting other individuals over their entire lifetime. Up to ninety percent of infants born to HBV-positive mothers become chronic carriers of infection if they do not receive treatment shortly after birth. The earlier a person becomes a chronic carrier, the greater the risk that chronic liver disease or cancer of the liver will develop later in life.

Factors which contribute to inadequate immunization levels include:

- *Limited clinic and office hours and service delivery sites.*
- *Long delays for appointments and long waiting times.*
- *Policies that require comprehensive physical examinations as a prerequisite, even though appointments for physical examinations must be scheduled months in advance.*
- *Limitations on the number of children who can be scheduled for immunization services at a specific location on a given day.*
- *Failure to screen and immunize children and adults who are seen for other medical reasons.*
- *Failure to integrate immunizations into the routine health care of children and adults.*
- *Failure to screen the immunization status of children accompanying other family members for health reasons.*
- *Failure to administer simultaneous doses of vaccine during a single health care provider visit.*
- *Lack of parental and provider knowledge about true contraindications.*
- *Excessive paperwork which delays the immunization process.*
- *Inadequate tracking and recall systems.*
- *Legal issues regarding who may provide consent for childhood immunizations.*
- *Inadequate funding for the purchase of hepatitis B vaccine.*
- *Lack of understanding of the importance of immunizations.*
- *Limited parental and provider knowledge of the recommended immunization schedule.*

The long term and costly consequences of vaccine-preventable diseases include vision and hearing loss, developmental delays, paralysis, liver disease including cancer, mental retardation, neurologic problems, heart disease, and death.

Intervention strategies for vaccine-preventable diseases include:

- *Develop electronic immunization record keeping and tracking systems with easily retrievable information.*
- *Regularly review immunization records to determine the percentage of children who are current by their second birthday. Monitor progress toward Year 2000 goals for immunization rates for children two years of age through assessment of provider records.*
- *Develop methods to assess immunization levels for diseases such as hepatitis B and other child and adult vaccine-preventable diseases.*
- *Make immunizations available when other health services such as WIC and family planning are being provided.*
- *Have no prerequisites (such as physical examinations) for receipt of immunizations.*
- *Provide immunizations free or for a minimal administration fee. Do not deny immunization services because of the inability to pay.*

- *Follow only the true contraindications for immunizing. (Mild illness, for example, is not a true contraindication.)*
- *Provide adequate funding for all vaccines, especially hepatitis B vaccine and the second dose of measles vaccine.*
- *Provide insurance coverage for all recommended child and adult immunizations, including the cost of vaccines and their administration.*
- *Pursue universal hepatitis B immunization, including all newborns, adolescents, persons who engage in high risk behaviors, and all health care providers.*
- *Decrease barriers to immunization services.*
- *Educate health care providers on the importance of screening all pregnant women for HBV and providing proper follow-up and treatment for newborns and household contacts.*
- *Raise public awareness of the need for immunizations for infants and throughout adult life.*
- *Inform physicians and other health care providers of new standards for pediatric immunization practices and guidelines for adult immunizations.*
- *Educate people in a culturally sensitive way about the importance of immunizations, the diseases they prevent, and the recommended immunization schedule.*
- *Make sure parents or guardians understand the importance of keeping an immunization record for each child.*
- *Involve local voluntary service organizations and coalitions in immunization efforts including outreach.*
- *Conduct a statewide media campaign to increase immunization awareness.*
- *Promote ongoing education and training on current immunization practices and recommendations for health care providers.*
- *Educate health care providers regarding federal requirements for storage, management and documentation of immunizations.*
- *Make immunization services readily available on a walk in basis, including some weekends and evenings, with minimal waiting time.*
- *Provide flu vaccine at workplaces, colleges and universities, senior centers, long-term care settings and other community sites where there are individuals at risk.*
- *Use all health care encounters to screen for needed vaccines and provide immunizations when indicated.*
- *Administer simultaneously all vaccines for which an individual is eligible at the time of each visit.*

Vaccine-preventable illness standards

	Washington State			United States		
	Baseline		Year	Baseline		Year
	Year(s)	%/Count	2000 Target	Year	%/Count	2000 Target
Age-appropriate immunization levels among children 0-23 months	1994*	56%	90%	1989	70-80% (est)	90%
Cases of specified vaccine-preventable diseases						
Measles	1992	250	0	1988	3,058	0
Pertussis	1992	101	20	1988	3,450	1,000
Hepatitis B	1992	**	**	1987	63.5	40

*Retrospective survey conducted in 1994, looking at records of kindergarten-aged children to see if they were appropriately immunized when they were age 0-23 months.

**Reported disease is a poor measure of hepatitis E occurrence in a community because many infected individuals have no symptoms and, therefore, may go undiagnosed. Data systems need to be developed to assess the level of hepatitis b immunization in various population groups.

Non-infectious disease

Non-infectious diseases are among the leading causes of death and are clearly major public health problems. This report describes and develops standards for the following non-infectious disease problems and risk factors of concern to public health officials:

- *Cardiovascular disease (coronary heart disease and stroke)*
- *Female breast cancer*
- *Uterine cervix cancer*
- *Diabetes*
- *Tobacco use*
- *Chemical dependency*

The diseases examined here are important from a public health perspective because they affect large numbers of people and because there are proven interventions which can prevent or alleviate much of the diseases' impact. Tobacco use is an important public health issue which is examined because of its significant relationship to many non-infectious diseases.

Other important non-infectious diseases are not addressed here. These include, but are not limited to, chronic obstructive pulmonary disease, asthma, lung cancer, colorectal cancer, skin cancer, prostate cancer, osteoporosis, arthritis, and kidney disease.

The public health approach to preventing non-infectious diseases is in some respects different from the approach used for acute or infectious diseases. Overt symptoms often appear years after a non-infectious disease has had an opportunity to develop within a person. Efforts are therefore aimed at reducing risk factors such as tobacco use and identifying disease processes at the earliest possible stage. Another public health goal is to prevent the later stage complications of the disease and to increase a person's productive years of life.

The social and economic costs of chronic care associated with non-infectious diseases are enormous. Public health programs to detect disease and reduce risky behavior can significantly reduce these costs. For example, the early diagnosis and treatment of diabetes is an important method of preventing or reducing complications associated with the disease, including blindness, amputation, heart and kidney disease, birth defects, and stroke.

Since non-infectious diseases develop over a period of many years, an intervention strategy may not have any significant impact on mortality rates by the year 2000. Improved screening and education may even cause an apparent rise in disease incidence and prevalence before any true reduction in morbidity or mortality can be seen. Outcome and threshold standards are therefore aimed at reducing risk factors or identifying the disease in its early stages.

Some known risk factors for non-infectious diseases include:

- *Heredity*
- *Behavior such as lack of exercise or tobacco use*
- *Environmental exposures to chemicals or radiation*
- *Socioeconomic status, particularly low education level and low income*
- *Diet and nutrition factors such as high fat intake or obesity*

- Hypertension
- Access to screening and preventive services for everyone, including people in rural areas or those with cultural or language barriers
- Gender, race, ethnicity, or age

Tobacco use is an example of a significant risk factor leading to heart disease, cancer, and diabetes-related deaths. Reducing tobacco use and exposure will reduce or delay the onset of these non-infectious diseases.

Activities which apply to the prevention and control of non-infectious diseases should be addressed by public health at the state and local levels. Such activities include:

- Change the environment.
- Educate the public.
- Educate health care providers.
- Assure access to high quality risk reduction services.
- Improve data availability.

Due to the long-term nature of non-infectious diseases, many different groups or agencies (public, private, voluntary) may become involved in the prevention, care, and rehabilitation of persons with these diseases. A coordinated approach to comprehensive health services is important in addressing non-infectious diseases. While this is just one of the goals of the state's initiative in the health system reform area, it is a significant one for public health.

Cardiovascular disease

Cardiovascular disease (CVD) is the leading cause of death in Washington, accounting for about 42% of all deaths. Coronary heart disease (CHD) and stroke account for 73% and 19%, respectively, of the over 15,000 CVD deaths in Washington each year. These two categories of disease are manifestations of the larger problem of atherosclerosis. Other conditions caused by atherosclerosis, such as peripheral vascular disease, will also be affected by the recommended efforts.

CVD mortality can be reduced by controlling risk factors. There are four generally accepted major modifiable risk factors for coronary heart disease: physical inactivity, tobacco use, elevated blood pressure (hypertension), and elevated blood cholesterol. Some risk factors, including diabetes mellitus and obesity, are influenced by both genetics and behavior. Others, such as age and sex, are not modifiable. CVD risk is also related to socioeconomic status. Data related to the prevalence of controlled and uncontrolled risk factors and the incidence of and morbidity from cardiovascular diseases in Washington State are inadequate or unavailable. In addition, data are needed on the prevalence of risk factors in special populations such as racial and ethnic groups, youth, and older adults.

In the tables below, the impact of risk factors is expressed as relative risk and population attributable risk. Relative risk is the ratio of the mortality rate in the population in which the risk factor is present to the mortality rate in the unaffected population. Population attributable risk is the portion of all mortality from a particular cause that results from the effects of that risk factor on the population. For example, the table below shows that the 48% of people who are physically inactive are about twice as likely to die of coronary heart disease or stroke as people who are active. Inactivity is responsible for 30% of the coronary heart disease deaths and 32% of the stroke deaths in Washington.

Coronary heart disease risk factors

Risk Factor	Relative Risk	Prevalence (WA) 1992	Prevalence (U.S.) 1992	Population Attributable Risk (WA)	Population Attributable Risk (U.S.)
Smoking	2.1	21%	26%	19%	25%
Cholesterol	1.7	unknown	37%	21%*	43%
Hypertension	2.1	unknown	19%	17%*	18%
Physical Inactivity	1.9	48%	58%	30%	35%

*Population Attributable Risk is based on United States Prevalence

Stroke risk factors

Risk Factor	Relative Risk	Prevalence (WA) 1992	Prevalence (U.S.) 1992	Population Attributable Risk (WA)	Population Attributable Risk (U.S.)
Smoking	2.0	21%	26%	17%	25%
Hypertension	3.3	unknown	19%	30%*	18%
Physical Inactivity	2.0	48%	58%	32%	35%

*Population Attributable Risk is based on United States Prevalence

Research has shown that CVD prevention efforts which produce relatively small changes in risk factor levels among the entire population have a larger impact on community disease rates than intensive interventions limited to high risk individuals. Thus, the most effective way to reduce mortality from cardiovascular disease would be to control the scientifically established risk factors by addressing behavior and life-style choices related to smoking, physical inactivity, hypertension, and nutrition through a comprehensive approach. This approach focuses on changing community norms and the environment, risk assessment and screening, public and provider education, and developing a health system which is better able to support CVD prevention efforts.

Primary CVD prevention is prevention of coronary heart disease and stroke through control of risk factors and is the primary focus in this document. Secondary CVD prevention is risk factor reduction among people who already have coronary heart disease, stroke or diabetes. Tertiary CVD prevention involves prevention of complications of disease, with public health involvement including early recognition and treatment of heart attack and stroke.

Intervention strategies for cardiovascular disease include:

- *Establish and maintain surveillance systems that provide data at the state, county, and community level to regularly assess and monitor the prevalence of risk factors, incidence, morbidity, and mortality for coronary heart disease and stroke.*
- *Establish and maintain surveillance systems to assure that services are being provided in accordance with established standards.*
- *Develop, implement, and update a comprehensive heart disease and stroke prevention plan.*
- *Use social marketing and policy advocacy strategies to promote healthy behaviors by changing societal norms and the environment through activities such as media campaigns.*
- *Change school curricula to support lifelong physical activity, avoidance of tobacco use, and healthy eating patterns.*
- *Help work site and health care agencies develop and implement programs which promote a healthy environment and behaviors among employees and clients. This may include the provision of incentives to work sites, such as legislation to limit liability.*
- *Reduce tobacco use. (For more detailed tobacco control interventions, see the Tobacco Control section of this document.)*
- *Promote the creation of safe and affordable physical environments that encourage physical activity. Examples of such activities include encouragement of zoning and building construction regulations which protect open space and development of green-ways.*
- *Prevent high cholesterol levels and encourage healthy eating by providing nutrition information and developing guidelines for food producers at points of purchase (such as grocery stores) and consumption (including institutional food operations and restaurants).*
- *Educate the public and health care purchasers about the benefits of physical activity, healthy eating patterns, smoking cessation and high blood pressure prevention and control.*
- *Educate the public about early recognition of heart attack and stroke and the importance of calling the emergency medical services system for assistance.*
- *Prevent high blood pressure by promoting weight control, lower salt intake, lower alcohol consumption, increased exercise and avoidance of tobacco use.*
- *Alleviate personal and system barriers to risk factor screening and follow-up services, particularly for high blood pressure.*
- *Develop culturally appropriate community-based prevention programs which implement integrated interventions that address multiple risk factors.*
- *Develop statewide and community-based health promotion programs to educate the public about healthy eating patterns which include decreased fat content and more servings of fruits and vegetables each day.*
- *Educate health care providers in heart disease and stroke prevention and control.*
- *Provide early intervention services to individuals experiencing a heart attack or stroke.*
- *Develop and implement a comprehensive emergency response system statewide, which includes the following elements and personnel: bystander CPR; rapid activation of emergency medical services (EMS) and trauma systems; hospital emergency departments; cardiac rehabilitation facilities; other health care facilities and personnel; and training programs in basic and advanced life support as well as citizen defibrillation.*

- Establish, implement, and monitor compliance with standards and guidelines for services related to early recognition and treatment of heart attack and stroke.
- Define the role of risk factor assessment services provided for individuals, including cholesterol screening, outside of primary care settings.
- Provide screening for high blood pressure in public settings for selected high risk populations.
- Develop, implement and monitor standards and guidelines for heart disease and stroke prevention and control to include risk factor assessment, smoking cessation, cholesterol control, hypertension management, and support of increased physical activity provided through the uniform benefits package.
- Establish tracking systems to monitor who is receiving heart disease and stroke prevention services and their effect on risk factor prevalence and control.

While mortality rates due to CHD and stroke have been decreasing, largely as a result of falling rates of exposure to risk factors in the general population, the total number of new cases and deaths due to cardiovascular disease are expected to increase. This is due to population growth, particularly in the older age groups. As the baby boom generation ages and becomes more susceptible to these conditions, overall incidence, mortality, and costs due to CHD and stroke are projected to increase substantially. Intensive risk factor reduction efforts will be necessary to reverse this trend.

For CVD and other chronic diseases, the year 2000 horizon is relatively short-term. Interventions put in place today will take years to achieve their desired impact in terms of population-based risk factor modification. Risk factor reductions then take time to show results in terms of reduced mortality rates.

Cardiovascular disease mortality standards

Washington State					United States			
					Year 2000			Year 2000
Baseline					Target	Baseline		Target
ICD-9 Codes		Year	Count	Rate*	Rate*	Year	Rate*	Rate*
All Cardiovascular Disease	390-448	1992	15,244	152.4	131.0	1990	190.9**	NA
Coronary Heart Disease	410-414, 429.2	1992	8,695	90.9	74.0	1990	102.5**	NA
Stroke	430-438	1992	2,947	26.0	19.0	1990	27.7	20.0
Coronary and Hypertensive Heart Disease	410-414, 402, 429.2	1992	9,026	94.5	85.0	1987	135.0	100.0

*Rates are age adjusted to the 1940 US population and are per 100,000 people.

**Source: American Heart Association. Cardiovascular Disease as defined here represents ICD/9 Codes 390-459; Coronary heart disease as defined here represents ICD/9 codes 410-414.

Risk factor control outcome standards

Risk Factor	1992 U.S. Prevalence	1992 Washington Prevalence	1996 Washington Outcome Standards	2000 Washington Outcome Standards
Cigarette Smoking	26%*	21%*	18%	15%
High Blood Pressure	18%	Unknown*	Establish Baseline	10% below Baseline
High Blood Cholesterol	37%	Unknown*	Establish Baseline	10% below Baseline
Physical Inactivity	58%*	48%*	45%	42%

* Data from 1992 Behavioral Risk Factor Surveillance Survey.

Risk factor screening standards

Risk Factor	1992 Washington Prevalence	1996 Washington Outcome Standards	2000 Washington Outcome Standards
High Blood Pressure Screening: Proportion of Population screened within past 2 years	95%*	97%	99%
High Blood Cholesterol Screening: Proportion of population ever screened	71%*	73%	75%

* Data from 1992 Behavioral Risk Factor Surveillance Survey.

Female breast cancer

Breast cancer is the second leading cause of cancer death among women in the United States and in Washington State. From 1987 through 1990, 2,977 women (26.9 per 100,000) died from breast cancer in Washington. The incidence rate (newly diagnosed cases) during that time was 132.7 per 100,000 women.

All women are at risk for breast cancer, but risk increases significantly with age. Other factors have been identified which add to a woman's potential for developing breast cancer but none of these factors is readily amenable to modification. Although considerable research in this area continues, opportunities for primary prevention are currently limited. The best opportunity is to detect breast cancer when it is in a "local" stage, when it is easier and less costly to treat and when it is more easily cured.

Research has shown that mammography screening and clinical breast exam performed by a physician or nurse, are effective methods for the early detection of breast cancer. Mortality can be reduced by 30 to 40% among women age 50 and older through the use of regular screening mammography and clinical breast examination. The most recent Washington State Behavioral Risk Factor Survey suggests that women who are low-income, less educated, Hispanic, Asian or over 70 years are not receiving mammography regularly.

There is a national controversy about screening asymptomatic women who are less than 50. Although some studies have shown that mortality rates in younger women are not affected by regular mammography screening, women less than 50 years of age continue to be diagnosed with breast cancer in Washington State. There is consensus that mammography has been proven effective and should be widely promoted for women 50 and older.

Breast cancer is an important health issue for women because it affects survival, life style, self-image, and quality of life. If the disease is to be controlled significantly in Washington State, early detection must increase before the year 2000.

There are significant barriers to adequate breast cancer screening for women in Washington. These include accessible, affordable mammography services, especially in remote regions, lack of health insurance coverage for early detection, lack of culturally sensitive public education messages, and lack of capacity for the system to track and notify women for regular screening.

Provider knowledge and attitudes can also be a problem. These problems include lack of:

- Knowledge about risk factors and that 75% of all breast cancers occur in women with no risk factors other than increasing age.*
- Routine recommended clinical examination, patient education and referral for mammography.*
- Provider agreement about quality standards and guidelines*
- Tracking systems and reminders to both patients and their physicians in the primary care setting.*

Fear is a major factor in women not obtaining timely appropriate clinical care and follow-up. There is lack of public knowledge about risk factors and the value of preventive health measures.

Intervention strategies for breast cancer include:

- Conduct comprehensive, ongoing analysis of breast cancer incidence and mortality trends.*
- Continue Behavioral Risk Factor Survey of all women, initiate surveys of special populations to monitor mammography use, and add capacity to survey older women aged 70+.*
- Survey for barriers to mammography screening.*
- Survey provider practices, knowledge, and attitudes.*
- Analyze geographic distribution of facilities and adequacy of equipment certification.*
- Survey, evaluate and track women who are diagnosed with breast cancer to assure adequate follow-up and treatment services.*
- Assess activities in public education, professional education, quality assurance, and surveillance to assure they are meeting the needs of the target populations.*
- Case review all late stage breast cancer deaths and report findings to public health officials.*
- Enhance cancer registry capacity to provide ongoing reports of case reviews and analyses of breast cancer.*
- Conduct periodic household interviews using Behavior Risk Factor Survey in low-income neighborhoods.*

- *Raise standards among professional organizations and institutional educational curricula to include prevention and screening guidelines in continuing medical education and required courses.*
- *Establish an advisory committee to review national screening guidelines, recommendations, and research findings and to review public health performance and adequacy of efforts related to breast cancer.*
- *Establish capacity for education of public, providers, and technicians.*
- *Assure accreditation standards for equipment and certification standards for mammography providers.*
- *Assure quality control inspector qualifications and adequate capacity to accomplish the standards which are set.*
- *Assure availability of mammography facilities in all geographic areas.*

Mammogram standards

	Washington State			United States		
	Baseline Year	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Ever Received a Mammogram						
All women aged 40+	1990-92	79.9%	90%	1990	60%	80%
Low-income women aged 40+	1990-92	68.3%	90%	1990	41%	80%
Women aged 40+ with less than HS education	1990-92	69.1%	90%	1990	45%	80%
Women age 70+	1990-92	75.0%	90%	1990	52%	80%
Hispanic women aged 40+	1990-92	68.0%	90%	1990	52%	80%
African-American women aged 40+	1990-92	87.2%	90%	1990	53%	80%
Asian women aged 40+	1990-92	81.2%	90%	1990	NA	NA
Native American women aged 40+	1990-92	84.0%	90%	1990	NA	NA
White women aged 40+	1990-92	79.9%	90%	1990	NA	NA
Other women aged 40+	1990-92	NA	90%	1990	NA	NA

	Washington State			United States		
	Baseline Year	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Received a Mammogram Within Preceding 2 yrs.						
All women aged 50+ years	1990-92	69.2%	80%	1991	54%	67%
Low-income women aged 50+	1990-92	54.5%	80%	1991	39%	67%
Women aged 50+ with less than HS education	1990-92	59.0%	80%	1991	40%	67%
Women age 70+	1990-92	63.6%	80%	1991	45%	67%
Hispanic women aged 50+	1990-92	*50.2%	80%	1991	54%	67%
African-American women aged 50+	1990-92	*68.9%	80%	1991	48%	67%
Asian women aged 50+	1990-92	*69.0%	80%	1991	NA	NA
Native American women aged 50+	1990-92	*76.7%	80%	1991	NA	NA
White women aged 50+	1990-92	*68.8%	80%	1991	NA	NA
Other women aged 50+	1990-92	NA	80%	1991	NA	NA

*These data reflect usage among women 40+ years of age. Source: Wash. State Behavioral Risk Factor Survey, including special 1991 rural survey.

Female breast cancer standards

	Washington State				United States		
	Year	Baseline Count	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Breast Cancer Deaths-Total Female Population	1990	743	21.0		1990	23.1	20.6
	1991	775	21.4				
	1992	781	20.8				
	1990-92	2299	21.1	18.9			

Data Source: Washington State Mortality Files All rates are per 100,000 resident population. Death rates are age-adjusted to the 1940 U.S. population. Breast cancer deaths are coded to ICD-9 174

Uterine cervix cancer

Cancer of the uterine cervix is one of the most common cancers in women and the most curable. In Washington, 72 women (2.5/100,000) died from cervical cancer in 1990. From June 1991 to May 1992, 198 women (6.8/100,000) were diagnosed with invasive cervical cancer, where the cancer cells had invaded the underlying tissue of the cervix, representing 6.6% of the total reported cases. Another 1836 women (61.4/100,000) were diagnosed with early stage or "in-situ" cervical cancer.

In the U.S., incidence of cervical cancer in white women under age 50 has reversed its previous downward trend and has been increasing about 3% a year since 1986. Elevated rates are also observed for Hispanics, Native Americans, and for women with low-incomes and low-education. Incidence rates are declining in black women of all ages and in white women over age 50. About a third of the women diagnosed die because the cervical cancer was not detected at an early enough stage for successful treatment. In Washington, invasive cervical cancer is more common in women over the age of 35 years, and among Asian/Pacific Islander and Native American women.

All women are at risk for cervical cancer, but certain factors increase the risk. These include early age of sexual intercourse, multiple sex partners, genital warts of certain types, cigarette smoking, lower socioeconomic status, non-white race and inadequate use of the Pap test.

When cervical cancer is found at its earliest stage, the disease is almost 100% curable, but the cure rate falls to 14% when it is detected in the distant stage. Early cervical cancer changes can easily be detected through use of the Pap test. By screening with the Pap test at least once every three years, cervical cancer mortality for women aged 20-70 years may be reduced by an estimated 70% to 95%.

The decline in cervical cancer mortality in the 1970s and 1980s is thought to be due primarily to the widespread use of the Pap test for early detection of cervical cancer. Current widely recognized and accepted guidelines recommend that women receive regular Pap tests upon becoming sexually active until age 75.

The most recent Washington State Behavioral Risk Factor Survey suggests that women who are low-income, less educated, Native American, Asian or over 70 years are not receiving Pap tests regularly. Regular Pap test screening among all women in the state,

with a special emphasis on these women may produce a shift toward earlier stage disease, with its attendant improved survival rate and decreased death rate.

There are barriers to adequate cervical cancer prevention services for all women. These include lack of health insurance coverage for preventive services, lack of culturally sensitive public education messages, lack of accessible, affordable screening and follow-up treatment services, including colposcopy.

There are too few health care providers counseling patients about risk factors and performing colposcopy, follow-up and treatment. There are inconsistent techniques being used in the collection, staining and preserving of Pap smears and inconsistent follow-up of abnormal Pap test and biopsy results.

Other barriers are caused by patient knowledge and beliefs. Some cultures do not consider screening a valued preventive health measure. Some women distrust the health care system and some dislike or are afraid of the Pap test procedure. Some women have no knowledge or information about the Pap test. Still others may not believe the test is of any value, or they may think they have no risk of cervical cancer.

Intervention strategies for cervical cancer include:

- Conduct comprehensive, ongoing analysis of incidence and mortality trends.*
- Continue Behavioral Risk Factor Survey of all women and target special populations for monitoring Pap test usage.*
- Expand survey to identify barriers to Pap screening among all women.*
- Conduct surveys to develop information about provider practices, knowledge and attitudes and report findings to public health officials.*
- Survey, evaluate and track women who are diagnosed with cervical cancer to assure adequate follow-up and treatment services.*
- Assess activities in public education, professional education, quality assurance and surveillance to assure they are meeting the needs of the target populations.*
- Case review all late stage cervical cancer deaths and report findings to public health officials.*
- Enhance cancer registry capacity to provide ongoing reports of case reviews and analyses of cervical cancer.*
- Conduct periodic household interviews using Behavior Risk Factor Survey in low-income neighborhoods and report results to public health officials.*
- Establish an advisory committee to review public health performance and adequacy of efforts related to cervical cancer.*
- Establish capacity for education of public, providers and technicians.*
- Raise standards among professional organizations and institutional educational curricula to include prevention and screening guidelines in continuing medical education and required courses.*
- Assure licensing standards for cytology laboratories, and laboratory professionals and technicians.*
- Increase availability of providers who perform the Pap test and assure accessibility within all geographical areas of the state.*

Papteststandards

	Washington State			United States		
	Baseline		Year 2000 Target Rate	Baseline		Year 2000 Target Rate
	Year	Rate		Year(s)	Rate	
Ever Received a Pap Test						
All women aged 18+ years	1989-92	95.9%	98%	1987	88%	95%
Low-income women aged 18+	1989-92	93.6%	98%	1987	80%	95%
Women aged 18+ with less than HS education	1989-92	92.7%	98%	1987	79%	95%
Women age 70+	1989-92	92.5%	98%	1987	76%	95%
Hispanic women aged 18+	1989-92	90.6%	98%	1987	75%	95%
African-American women aged 18+	1989-92	92.4%	98%	1987	NA	NA
Asian women aged 18+	1989-92	79.7%	98%	1987	NA	NA
Native American women aged 18+	1989-92	99.5%	98%	1987	NA	NA
White women aged 18+	1989-92	96.5%	98%	1987	NA	NA
Other women aged 18+	1989-92	NA	98%	1987	NA	NA

	Washington State			United States		
	Baseline		Year 2000 Target Rate	Baseline		Year 2000 Target Rate
	Year	Rate		Year(s)	Rate	
Received Pap Test Within Preceding 2 Years						
All women aged 18+ years	1989-92	84.9%	90%	1987	*75%	85%
Low-income women 18+	1989-92	79.3%	90%	1987	*64%	80%
Women aged 18+ with less than HS education	1989-92	79.9%	90%	1987	*58%	75%
Women age 70+	1989-92	69.3%	90%	1987	*44%	70%
Hispanic women aged 18+	1989-92	84.8%	90%	1987	*66%	80%
African-American women aged 18+	1989-92	87.4%	90%	1987	NA	NA
Asian women aged 18+	1989-92	69.5%	90%	1987	NA	NA
Native American women aged 18+	1989-92	90.8%	90%	1987	NA	NA
White women aged 18+	1989-92	85.3%	90%	1987	NA	NA
Other women aged 18+	1989-92	NA	90%	1987	NA	NA

* U.S. data shows Pap test usage within the preceding three years. NA = Not available. Washington data for the period 1989-92 represent the most recent three years of data available, since no data on statewide Pap smear utilization were gathered in 1991. Source: Wash. State BRFS, including special 1991 rural survey.

Cervical cancer standards

	Washington State				United States		
	Year	Baseline Count	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Cervical Cancer Deaths-Total Female Population	1990	72	24		1990	28	1.3
	1991	63	20				
	1992	52	1.6				
	1990-92	187	20	1.6			

Data Source: Washington State Mortality Files All rates are per 100,000 resident population. Death rates are age-adjusted to the 1940 U.S. population. Cervical cancer deaths are coded to ICD-9

Diabetes

Fourteen million people in the U.S. and over 236,000 in Washington State have diabetes. Diabetes is perceived as a benign disease when, in fact, it is a significant cause of suffering and death. People with diabetes face a shortened life span and the risk of devastating complications including blindness, foot and leg amputations, kidney failure, and perinatal mortality and birth defects among their children. Death rates due to heart disease and stroke are more than twice as high among people with diabetes as among those without diabetes. Diabetes is very expensive; it costs over \$1.6 billion dollars in Washington annually.

Undiagnosed Non-Insulin Dependent Diabetes Mellitus (NIDDM): Ten to 20 percent of people age 50 and over have NIDDM and are not aware that they do. In Washington, over 130,000 people have undiagnosed NIDDM. Research shows that diabetes goes undiagnosed an average of 12 years, and that it is not benign during that time. Disabling complications, preventable if they had been identified early, often are developing.

Blindness: Each year several hundred people in Washington will lose their vision due to diabetes, the leading cause of blindness in Americans of working age. Early detection and timely treatment of retinopathy can prevent up to 90% of such blindness. To be most effective, detection and treatment must occur before symptoms develop.

Lower Extremity Amputations (LEA): Diabetes is the leading cause of non-traumatic lower extremity amputations. In 1991 there were 722 diabetes-related amputations in Washington, each costing approximately \$40,000 for medical and rehabilitative services—a total cost of \$28 million. Over half of these amputations can be prevented with proper foot care and education.

End Stage Renal Disease (ESRD): Diabetes may cause nephropathy, which results in ESRD, or progressive chronic kidney failure. In Washington in 1991, over one-third of all cases of ESRD and almost half of all new cases were among people with diabetes. The costs of ESRD exceed \$36,000 per year per patient, translating into a total cost of \$23 million per year only for the patients with diabetes. Early routine screening and aggressive control of blood sugar and hypertension will prevent and impede the development of kidney disease.

Coronary Heart Disease/Stroke: Diabetes is a strong independent risk factor for heart disease and stroke deaths. National data show the risk of dying from these diseases is over two times higher for people with diabetes than for people without diabetes. Heart disease and stroke cause the death of 60% of people with diabetes. Early diagnosis of diabetes and aggressive risk factor reduction are critical to reducing these death rates.

Birth Defects: Five percent of pregnancies among women with established diabetes result in perinatal death, compared to two percent in the general population. Eight percent of babies born to these women have a major birth defect, over three times the birth defect rate for all babies. Normalization of blood glucose levels prior to conception can prevent increased death and malformation rates among infants. Preconception care is cost effective: for every dollar spent, \$1.86 is saved in direct medical costs. The critical factor is identifying and educating women with established diabetes before they become pregnant.

Rigorous glucose control reduces the risk of complications and is essential for women with established diabetes who are considering pregnancy. Optimal glycemic control established prior to conception can reduce the rates of congenital malformations among infants born to women with diabetes to the same levels as the general population.

The most important contributing factors for diabetes and its complications include: lack of awareness of the signs, symptoms, and risk factors for diabetes and its complications; under-diagnosis of diabetes; lack of consensus on screening criteria, poor glucose control; high blood pressure; smoking; obesity; poorly balanced diet; sedentary life style; peripheral neuropathy or vascular disease; improper foot care or footwear; and foot infections.

Public health strategies for diabetes hinge on people having universal access to affordable health insurance that does not preclude coverage of pre-existing conditions and that covers services that have been scientifically proven to prevent the complications of diabetes.

Intervention strategies for diabetes are:

- *Conduct statewide and county-specific analysis of the prevalence, incidence, morbidity, and mortality of diabetes, and determine progress toward outcome standards.*
- *Establish cost-effective screening criteria for diagnosing diabetes in high risk populations.*
- *Assure availability of, and access to, screening for early treatable clinical symptoms of the complications of diabetes.*
- *Convene a consensus conference for primary care providers in Washington State on the American Diabetes Association Standards of Care for diabetes.*
- *Educate health care providers and people with diabetes about standards of care.*
- *Develop policies to assure that standards of care for diabetes are practiced by health care providers.*
- *Provide widespread public education, with particular emphasis on high risk populations, about the risk factors, signs and symptoms of diabetes.*
- *Coordinate interventions with the cardiovascular disease prevention program to promote increased physical activity, weight management, balanced diet, smoking cessation, and hypertension control.*

The table below shows the most important intervention strategies to reduce the impact of diabetes and each of its major complications.

Intervention strategies for reducing diabetes and its complications

Intervention	Heart Disease	LEA	Retinopathy/ Blindness	Nephropathy /ESRD	Perinatal Death/Birth Defects	Undiagnosed NIDDM
Surveillance	X	X	X	X	X	X
Early Diagnosis of Diabetes	X	X	X	X	X	X
Optimal Glucose Control	X	X	X	X	X	
Professional Education	X	X	X	X	X	X
Patient Education	X	X	X	X	X	
Public Education	X	X	X	X	X	X
Screening	X	X	X	X	X	X
Ensuring Proper Reimbursement for Diabetes Care	X	X	X	X	X	
Smoking Cessation	X	X		X	X	
Blood Pressure Control (JNC-V guidelines, ACE Inhibitors)	X	X	X	X	X	
Dietary Public Recommendations (ADA)				X		
Weight Management	X					X
Control Cholesterol (NCEP Recommendations)	X				X	
Increase Physical Activity	X				X	
Aggressive foot care		X				
Therapeutic foot wear, when needed		X				

Outcome standards for diabetes

Complication	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Undiagnosed diabetes*	1992	130,000	25.4	22.0	ND	ND	ND
Incidence of blindness	**	**	**	**	1988	2.2	1.4
Lower extremity amputation	1990-92	1977	4.9	4.0	1987	8.2	4.9
Incidence of End Stage Renal Disease (ESRD)	1990-92	930	2.3	2.2	1987	1.5	1.4
Coronary Heart Disease & stroke deaths^	1990-92	2288	563	525	ND	ND	ND
Perinatal mortality^^	**	**	**	**	1988	5%	2%
Congenital malformations^^	**	**	**	**	1988	8%	4%

Data Sources

Deaths: Center for Health Statistics Hospitalizations
Washington State Department of Health, CHARS
ESRD: Northwest Renal Network

Rates are incidence rates per 1,000 people with diabetes. Deaths rates are per 100,000 people with diabetes.

*Washington's proportional share of the 7,000,000 people with undiagnosed diabetes estimated by the American Diabetes Association to live in the U.S.

**No Washington specific data available.

ND=No available data.

^ICD-9-CM codes 410-414, 429.2, 430-438.

^^Among infants of women with diabetes

Tobaccouse

According to the U.S. Surgeon General, smoking is the single most important preventable cause of death in our society. Smoking is a major contributor to death and disease from coronary heart disease, cerebrovascular disease, lung and other cancers, and chronic obstructive pulmonary disease (COPD). Over 90% of all lung cancer and over 80% of all COPD is attributable to tobacco. In Washington in 1990, an estimated 7,993 deaths were attributable to all uses of tobacco, totaling approximately \$845 million dollars in direct (medical) and indirect (lost productivity) costs.

Smokeless tobacco consumption in the U.S. has been increasing at an alarming rate; the product is marketed as a "safe" alternative to cigarettes. Smokeless tobacco is highly addictive and has been found to be a cause of cancers of the oral cavity and pharynx, including the gum and buccal mucosa, salivary glands, and larynx. Noncancerous conditions such as oral lesions, gingival recession and loss of tooth structure have also been associated with smokeless tobacco. The consumption of moist snuff increased 40% from 1972-1991, predominantly among young males.

Although the effects of tobacco use are seen in people of all ages, races, income levels, and educational levels, certain populations merit individual attention.

Adults Overall: Since 1987, the overall adult smoking rate in Washington has not dropped significantly. Social acceptance of tobacco use by females, higher smoking initiation rates by female adolescents and the marketing tactics of the tobacco industry are primary causes of this lack of decline.

Youth: Eighty percent of adult smokers become addicted to tobacco during their teens, highlighting the importance of prevention. Smoking prevalence rates among young people in Washington appear to be on the rise. Chewing tobacco use among young males is alarmingly prevalent.

Low Income and Education: In Washington State and in the nation, people with family incomes of \$20,000 per year or less and those with a high school degree or less are significantly more likely to be smokers.

African Americans: African American men are 30% more likely than white men to die from smoking-related diseases. African American communities are heavily targeted by tobacco industry marketing and promotion.

Southeast Asian Men: Data are inadequate concerning the numerous ethnic groups making up the Asian category. However, some data do point to a high rate of smoking among Southeast Asian males. Washington has the third largest Southeast Asian refugee population in the nation.

Hispanics: Data are also inadequate concerning Hispanic populations in Washington. However, national data indicate that Hispanic males have a higher smoking prevalence than non-Hispanic males. Hispanics who are U.S. born appear to have high tobacco use prevalence rates.

Native Americans: In Washington, Native Americans have high smoking and chewing tobacco use rates. The economics of tobacco sales on reservations and the exemption of reservations from certain state and federal tobacco taxation laws are factors which need to be addressed when designing tobacco prevention and control strategies for this population. In addition, the cultural factors, because of historic and current use of tobacco for rituals, must be addressed.

Pregnant Women: Smoking during pregnancy is a serious problem among teens and lower income women. It is associated with adverse pregnancy outcomes such as low birth weight babies, premature deliveries, spontaneous abortions, stillbirths and neonatal deaths.

There are many factors that contribute to use of tobacco in our society. They include:

- The relatively low price of tobacco.*
- Lack of policies and laws regulating environmental tobacco smoke.*
- Easy access to tobacco products by minors.*
- Cheap tobacco on Indian reservations due to the non-application of state and federal taxes.*
- Lack of consistent norms and policies in schools addressing tobacco use.*
- Targeted advertising and marketing tactics by the tobacco industry.*
- Lack of accessible, affordable cessation programs.*
- Inadequate insurance coverage for cessation programs.*
- Inadequate access to the health care system for low income and minority populations.*
- Lack of culturally relevant, language specific prevention and cessation resources for non-English speaking groups.*
- Use of tobacco to control stress and weight (primarily by adults, pregnant women and young women).*

- *For many foreign-born individuals, a lack of knowledge/education about the health effects of smoking and secondhand smoke.*
- *Parents and other role models who smoke (for youth).*
- *The enticement of “risk-taking behavior” (for youth).*

Tobacco use is a public health concern that affects the economics and the health of all citizens. Four categories of policies have been determined, through years of research by the National Cancer Institute and other research institutes, to be the most effective in reducing the tobacco use prevalence: 1) progressive expansion of smoke-free environments; 2) elimination of most tobacco advertising and promotion; 3) elimination of access by minors to tobacco products and general limitation of the availability of tobacco products within the community; 4) steep tobacco product price increases.

Intervention strategies to reduce tobacco use include:

- *Develop a method to accurately determine the smoking prevalence in minority populations in Washington.*
- *Assess the smoking status of youth under age 18 by county.*
- *Make policies and laws on tobacco for public places, schools, work sites, health care facilities, restaurants, bars and taverns consistent with its status as a proven carcinogen.*
- *Eliminate distribution of free tobacco samples.*
- *Eliminate tobacco sponsorship of sporting or community events.*
- *Increase the price of tobacco through taxation indexed to inflation, and earmark revenue for tobacco control programs.*
- *Decrease or eliminate environmental tobacco advertising.*
- *Work with tribal governments to address tobacco taxation issues on reservations.*
- *Discourage lawmakers at local, state and federal levels from accepting campaign contributions from tobacco companies.*
- *Conduct media campaigns to educate policy makers and the public on the tobacco industry’s advertising strategies which target youth and minority populations.*
- *Mobilize communities and target populations by developing youth and community coalitions that focus on tobacco prevention and control.*
- *Assess the extent to which tobacco advertisements and promotions target youth, low income people and communities of color.*
- *Assess the impact on state policy of campaign contributions from tobacco companies.*
- *Educate policy makers and the public about the tobacco industry’s political strategies to undermine the tobacco control movement.*
- *Eliminate point of purchase marketing of tobacco as well as promotional “give-aways” such as hats and jackets.*
- *Include coverage for clinically proven cessation programs as part of the Uniform Benefits Package and ensure coverage for cessation programs by Medicaid, the Basic Health Plan and other third party payers.*
- *Enhance tobacco education in schools, families, and community organizations aimed at preventing exposure of children to environmental tobacco smoke, preventing initiation of tobacco use, and promoting self-esteem, goal setting, and refusal skills.*
- *Educate specific populations through counter-advertising campaigns.*
- *Provide cessation services for patients in drug treatment facilities.*
- *Promote affordable, accessible and culturally appropriate cessation and relapse prevention programs.*

- *Encourage the development of local public information and referral programs for tobacco prevention and control to assure access to needed materials and information and referral to community smoking cessation resources.*
- *Assure adequate enforcement of environmental tobacco smoke restrictions (laws and regulations).*
- *Educate tobacco retailers on the Minors' Access to Tobacco law (RCW 70.155) and the implications of selling tobacco to minors.*
- *Train health care providers to systematically identify tobacco users and provide brief, consistent, repetitive advice to quit and conduct follow-up for those considering quitting.*
- *Assess the effectiveness of current laws which aim to reduce youth access to tobacco, and continue to improve regulations as necessary.*
- *Evaluate the efficacy of teen cessation programs through research.*

Smoking standards

	Washington State			United States		
	Baseline Year(s)	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Adult Overall	1992 ¹	21.2%	15%	1992 ⁷	25.6%	15%
12th Grade Youth	1992 ²	26.1%	10%**	1992 ⁴	30.6%	Nd
Low Income	1992 ¹	32%	15%	NA	NA	NA
Less Education	1992 ¹	32%	15%	1987	34%	20%
African Americans	1990-92 ^{1a}	29.0%	15%	1992 ⁷	27%	18%
SE Asian Men	1989	42.5%*	15%	1987 ⁶	55%	20%
Hispanics	1990-92 ^{1a}	22.8%	15%	1991 ⁵	25.2%	18%
Native Americans	1990-92 ^{1a}	31.7%	15%	1987 ⁶	42-70	20%
Pregnant women (all)	1992 ³	19.9%	10%	1987	25%	10%
Pregnant women under 20	1992 ³	30.4%	15%	NA	NA	NA

1 - Washington Behavioral Risk Factor Survey

1a - WA BRFSS with additional special rural survey

2 - Washington Adolescent Health Behavior Survey

3 - Washington Birth Certificate data

4 - Youth Risk Behavior Survey, CDC

5 - National Household Information Survey

6 - Healthy People 2000

7 - Current Population Survey, CDC

*Survey conducted by the Seattle-King County Dept. of Public Health, 1989. No state baseline data exist for this population.

**Outcome selected based on a Healthy People 2000 goal of 15% initiation rate by youth, age 20.

Chemical dependency

The misuse of alcohol and other drugs is a serious public health threat in Washington State. Primary prevention of chemical misuse and use by pregnant women are specific topics addressed elsewhere in this report. This section addresses the needs of addicted people who are considered to have an illness and to be in need of treatment like people with many other illnesses.

Alcohol and other drug addiction is a chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. Identified health complications include cirrhosis of the liver, heart disease, spread of sexually transmitted diseases, intentional and unintentional injury, and death.

Alcoholism and other drug addictions are associated with adverse effects on virtually every part of the body including the digestive tract, the liver, as well as the cardiovascular, respiratory, and immune systems. During 1990, 2,155 persons died of causes related to alcohol and other drugs in Washington State, and thousands of people were hospitalized with illnesses directly or indirectly related to alcohol or other drug use.

Chemical dependency also drags down the state's economic output. Employers bear the cost of absenteeism, lowered production, and increased turnover resulting from addiction and substance abuse. Estimates from the 1993 Substance Abuse Costs study are that alcohol and other drug addiction cost the state \$1.8 billion annually. This includes an estimated \$215.8 million in direct medical costs.

Nationally, per capita consumption of alcohol is declining even as the number of heavy drinkers and people suffering from alcoholism is increasing. Alcohol related traffic crashes are the number one cause of death and spinal cord injury for young Americans. However, auto fatalities in Washington State have been in steady decline since the development of treatment approaches in conjunction with driving under the influence laws. Illegal drug use prevalence is also on the decline, except for certain subpopulations, such as among people over 35 residing in urban centers, racial and ethnic minorities, high school dropouts, and the unemployed.

Adolescent substance abuse is increasing. Prior to 1984, no publicly funded adolescent residential treatment system was available. Current demand for these and outpatient services far outweighs the supply. Alcohol use is associated with suicide, crime, teenage pregnancy, personal injury, and school dropout. In Washington, the Office of the Superintendent of Public Instruction and the Department of Health conducted a survey in 1992 which indicated 46,000 students in grades 6-12 drink daily or binge drink at least monthly. Thirty-three percent of Washington students use alcohol by 6th grade. Four percent of the same population (almost 17,000) use drugs frequently.

Almost 20 percent of hospital discharges in Washington State in 1990 carry a secondary or tertiary diagnosis related to alcohol or other drug abuse. These patients have significantly higher (10-30 percent) costs associated with their primary hospital care. Emergency room care resulting from unintentional injury is often correlated to alcohol misuse. Alcohol is implicated in the four leading causes of unintentional death: vehicle crashes, falls, drowning, and burns.

In order to provide comprehensive, effective treatment for chemical dependency and related disorders, the following steps must be taken:

- *Enhance resources for chemical dependency treatment, including outpatient treatment, detoxification, short-term residential treatment, and long-term residential treatment.*
- *Implement new court strategies which include adequate treatment capacity.*
- *Train primary medical staff to identify and assess early onset of chemical dependency in their patients and provide intervention approaches and referral options.*
- *Provide accessible and culturally appropriate chemical dependency services.*
- *Educate law enforcement, criminal justice systems, schools, and community groups on chemical dependency as a disease and its indicators.*
- *Assess hospital admission trends and law enforcement trends to determine population subgroups not getting treatment or trends in types of substances being abused.*
- *Expand chemical dependency services in jails and prisons.*
- *Assure outreach and case management for pregnant and parenting women, underserved populations, culturally diverse groups, and youth.*
- *Assure ancillary support services during and after chemical dependency treatment, such as child care, transportation, housing, employment support, and vocational services.*
- *Expand substance abuse intervention referral and treatment services in the school system, including primary, secondary and higher education.*
- *Promote the expansion of wellness and employee assistance programs in business and industry.*
- *Promote reduced employer health benefit costs for businesses which initiate wellness and employee assistance programs.*
- *Design effective public policy regarding issues such as drug offenses, drunk driving and boating, public inebriation, and involuntary commitment.*
- *Address the need for public information and counter-advertising regarding use and abuse of alcohol and other drugs.*
- *Develop effective public policy concerning sale and distribution of tobacco and alcohol and other drugs.*
- *Develop effective public policy concerning sale and distribution of tobacco and alcohol, age of legal use, and public drinking and smoking laws.*
- *Work with tribal governments to address alcohol taxation issues on reservations.*

Standards for chemical dependency

	Washington State				United States			
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Year(s)	Baseline Rate	Year 2000 Target Rate	
Liver cirrhosis deaths	1992		9.4	7.12		NA	7.12	
Alcohol-related motor vehicle deaths	1992		6.01	7.09	1992	6.92	7.09	
Drug-related deaths (per 100,000)	1992		5.6	3.00		NA	3.00	
Violent crime offenses	1992		533.57	NA	1992	806.20	NA	

All rates are crude rates per 100,000 total population

Sources:

Cirrhosis: Washington State Department of Health, Center for Health Statistics

Alcohol-Related Motor Vehicle Deaths: Washington Fatal Accident Reporting System, Traffic Safety Commission and Office of Financial Management

Drug-Related Deaths: Washington State Department of Health, Center for Health Statistics

Violent Crime Offenses: Washington State Uniform Crime Reports, Washington Association of Sheriffs and Police Chiefs and the Washington State Criminal Justice Training Commission

Violence and injury

Injury is the leading cause of death for all Washington residents between the ages of 1 and 44. Each year, over 2,600 Washington residents die due to injuries, and almost 39,000 have injury-related hospitalizations. Many of these deaths and hospitalizations can be prevented, and the severity of many injuries can be reduced.

The serious injury-related public health problems addressed in this section are:

- *Child abuse and neglect*
- *Homicide and aggravated assault*
- *Interpersonal youth violence*
- *Suicide among youth and young adults*
- *Domestic violence*
- *Sexual assault*
- *Traffic crash injury and death*
- *Falls among older adults*
- *Bicycle crashes*
- *Drowning*
- *Fires and burns among young children*
- *Pedestrian injuries*
- *School playground injuries*
- *Poisoning*

The purpose of injury prevention is to limit the opportunity for injuries to occur and to minimize their consequences when they do occur. Approaches to this involve a combination of strategies, including education, legislation and enforcement, and engineering and technology (such as car seats and bicycle helmets). One significant barrier to reducing the incidence of injuries is the public perception that injuries occur by chance. Most injuries are not “accidents” — random, uncontrollable, unpredictable events. The fact is that injuries occur in highly predictable patterns, with recognizable risk factors, among identifiable populations. The approach and technology for preventing many injuries exists; what is needed is their widespread implementation.

Injuries occur unintentionally or intentionally. Unintentional injury includes motor vehicle crashes (including those involving bicyclists and pedestrians), falls, drownings, poisonings, and fires and burns. Intentional injury (violence) includes suicide, homicide and assault, rape and sexual assault, domestic violence, child abuse and elder abuse.

Children, adolescents, older adults, and low income people are at highest risk. Injury is the leading cause of death among children and young adults. Over half the deaths of children ages 1-14 are from injury. Children of different ages are at risk for different types of injuries. For infants under one year, homicide and suffocation are the leading cause of injury death. For toddlers, drowning is the leading cause, and for children over age 5, motor vehicle-related deaths predominate.

Young adults are at particular risk: of the 7,520 persons killed in motor vehicle crashes from 1980-90, over half were ages 15-29. Young people between the ages of 15 and 24 are at highest risk of committing and experiencing homicide and assault. At the other end of the age spectrum, older adults are particularly vulnerable to injuries sustained in falls, with over 9,000 hospitalizations per year.

Intentional injury exacts an enormous toll. Traditionally a responsibility of law enforcement and social services, prevention of violence is now a national public health priority. In Washington State, there are almost as many deaths due to suicide as there are motor vehicle deaths, with 684 suicides in 1991. That same year, there were 233 homicides, with at least 55 deaths resulting from domestic violence-related incidents. In 1992, there were 260 homicides. Aggravated assault is the most frequently reported form of violence: 16,234 cases were reported in 1992 alone, an increase of 63% since 1984.

An important consideration in the issue of injury and violence is the Emergency Medical Services and Trauma Care System, which responds to thousands of injury incidents yearly. When an injury incident occurs, a comprehensive trauma system is the best way to control the potential for death and disability that might result from those injuries.

Because injuries vary by age, geographic location and ethnicity, an all-inclusive discussion of injury issues is not possible in this report. Issues not discussed include adolescent work-related injuries, elder abuse, falls among populations other than older adults, farm injuries, fires and burns among age groups other than young children, motorcycle injuries, occupational drowning, poisoning among age groups other than young children, recreational injuries other than bicycling and drowning, sports injuries, and suicide in populations other than youth and young adults.

Child Abuse and Neglect

Child abuse and neglect are killing and disabling children in Washington State at increasing rates. Homicide is the leading type of injury death affecting infants. Thousands of children experience non-fatal abuse and neglect that result in developmental delay, brain damage, physical and sensory disabilities, acute and chronic physical and

mental health problems, future misuse of alcohol and other drugs, academic failure, and other serious consequences.

At 12th grade, 19% of students report a history of physical abuse and 18% report a history of sexual abuse. The data available do not represent all of the children who experience neglect and abuse. Under-reporting in white, middle income, and upper income families may be as high as 60%. In Washington, child abuse and neglect report rates were 42.5/1,000 children in 1990, 45.4/1,000 in 1991 and 48.1/1,000 in 1992.

Obtaining an accurate count of deaths due to abuse and neglect is difficult due to inconsistent definitions, absence of autopsies or death scene investigation, and discrepancies in reporting sources. Reports by the Uniform Crime Reporting System on deaths of children 0 - 18 years old due to abuse and neglect indicate 7 deaths in 1989; 4 in 1990; 10 in 1991 and 22 in 1992.

The cost to society of the consequences of child abuse and neglect are estimated at \$500 million for immediate costs of placement and medical and therapeutic services, and an additional \$600 million for foster care and juvenile detention.

Child abuse and neglect is rooted in multiple and interacting individual, family and community factors.

Intervention strategies for child abuse and neglect include:

- Institute a uniform method of data collection on child abuse in every county in Washington State, including tribes (with their approval).*
- Develop community-based and statewide infant and child death review teams that monitor trends in deaths of infants, children and adolescents.*
- Develop home visitation, beginning prenatally and continuing to at least age two, to provide education on appropriate child-rearing strategies and reduce the risk factors that contribute to child abuse and neglect.*
- Promote parent education that is culturally appropriate, builds on family strengths, and emphasizes child development, communication, problem-solving, and non-violent behavior management.*
- Promote intensive research-based parent education to parents of children with disabilities, conduct-disorders, attention deficit disorder and other behaviors that put them at risk for abuse.*
- Develop an ongoing public and professional awareness and educational campaign through the media on parenting and child abuse prevention.*
- Provide technical assistance to the business sector to create "family-friendly" work sites, including child care and parent education to reduce risk factors for abuse and neglect.*
- Assure availability of well child services, tracking and follow-up for all families, especially high-risk families.*
- Promote programs in schools and early childhood settings that teach children that violence on television is unrealistic and violence in reality has serious health and social consequences.*
- Assure that all childbirth educators, prenatal care providers and others who serve pregnant women integrate parenting information and abuse risk screening in their services.*
- Promote support and self-help groups and crisis respite care for parents with and without risk factors, based on self-referral or professional referral.*

- *Make mental health and family support services available to all children and adolescents who have experienced abuse and neglect, and to the adult abusers.*
- *Implement strategies to prevent family violence, substance abuse, and adolescent pregnancy (see standards on youth violence, domestic violence, chemical misuse, and adolescent pregnancy).*
- *Develop school, early childhood education, and child care policies across state agencies that promote education on appropriate communication, anger management, conflict resolution, and other abuse prevention topics.*

Standards for child abuse and neglect

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Abuse and neglect Age 0-17 years	NA	NA	NA	*	1986	25.2	25.1
Primary Care Providers Screening for Abuse/Neglect	NA	NA	NA	**	NA	NA	NA

Data Source(s):

Abuse and neglect: Undetermined

Primary care screening for abuse/neglect:
Undetermined

Case Definition(s):

Abuse and neglect: Undetermined

Primary care screening for abuse/neglect:
Undetermined

Additional Notes:

Rates are per 1,000 couples resident population

*Baseline data expected by 1995. Maintenance of the baseline rate is expected between 1995 and 2000.

**Baseline data expected by 1995. It is assumed that less than 75% of providers currently screen and that screening can increase to 75% by year 2000.

Homicide and aggravated assault

Homicide as presented in the data in this report is death due to injuries purposely inflicted by another person, not including deaths caused by law enforcement officers or legal execution. Aggravated assault is an unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury, and is usually accompanied by the use of a weapon or by means likely to produce death or great bodily harm.

During 1990-92 Washington State averaged 259 homicides per year, resulting in an age-adjusted rate of 5.4 homicides per 100,000 population. The national average (1987 age-adjusted baseline) was 8.5 per 100,000.

Homicide does not occur evenly in the population, taking its greatest toll among people of color, males, and the young. In Washington (1989-91), 70% of homicide victims were male, and 68% were between the ages of 15-34. African Americans have the highest homicide rate, 29.4 per 100,000, which is six times higher than the rate for the general population.

Random violence is increasing. During 1989-91, 26% of homicide victims in Washington State were killed by strangers, compared to 12% in 1984.

During 1989-1991, Washington averaged 13,950 aggravated assaults per year. About 12% of the victims were hospitalized. Aggravated assault is increasing, with each year's rate in Washington about 5% higher than the previous year.

As with homicide, aggravated assault does not occur evenly in the community. From 1989-91, 79% of the victims were male, and almost 63% were between 15-34 years of age.

Many assaults go unreported. A major study done in Northwestern Ohio found that only one in four of the assaults resulting in emergency room treatment were reported to the police. This suggests that most violence may be unseen by the police.

Most violent crimes occur in the most heavily populated areas of the state. Interpersonal violence is not, however, exclusively an urban problem. Several rural areas have violent crime rates that are high. Violent crime is also not distributed evenly throughout urban centers; certain communities experience significantly greater rates of violent crime than others.

Most violence occurs between people who know each other, at least one of whom is unable to tolerate frustration or resolve conflict. Long before the most extreme expressions of violence occur, a history of hitting, beating, fighting, and abuse often exists.

High homicide and aggravated assault rates are related to poverty, unemployment, availability of handguns, alcohol and other drugs, racism, exposure to media violence, school and early childhood education experiences, and family management problems.

Fifty-five percent of homicides in Washington are committed with firearms. There is a connection between the proliferation of handguns and the mounting homicide rate. Researchers in the United States and Canada examined the homicide statistics for Seattle and Vancouver between 1980 and 1986. These two cities are similar in size, rates of

unemployment, and income. Seattle had 388 homicides during the six years, Vancouver had 204 homicides. In both cities, the number of homicides from non-handgun violence—including knife attacks—was about the same. In Seattle, where handguns are freely available, 139 people were shot to death. In Vancouver, with restrictive handgun laws, 25 people were shot to death during the same period.

Alcohol and drug consumption are associated with all types of homicide except child murder. The National Institute on Alcohol Abuse and Alcoholism has estimated that about one-half of all homicides in the United States are related to use of alcohol. In Seattle, almost two-thirds of homicide victims have alcohol in their bodies.

The average child in the United States will witness 8000 murders and 100,000 acts of violence on television before completing elementary school; by 18 years of age, a child is likely to have seen 200,000 acts of violence on television, including 40,000 murders.

Intervention strategies for homicide and assault include:

- *Promote jobs and employment opportunities for youth.*
- *Reduce exposures to media violence.*
- *Develop and implement media campaigns to educate the public that high homicide rates are unacceptable.*
- *Expand successful community based youth alcohol and drug outreach and treatment services.*
- *Limit access to firearms by persons who are not prepared to use them safely and responsibly.*
- *Require anger management counseling and alcohol treatment as conditions of reduced sentences.*
- *Enforce the domestic violence law and educate law enforcement professionals regarding the letter and spirit of the law.*
- *Expand health education curricula from elementary to high school to teach children how to manage hostility and aggression with nonviolent means.*
- *Promote peer counseling and conflict resolution.*
- *Expand parenting education classes to include violence prevention.*
- *Improve the identification, referral, and treatment of persons at high risk of violent behavior because of chronic use of alcohol and other drugs.*
- *Equip television sets with a microchip that would enable parents to block unwanted programming.*

Standards for homicide and aggravated assault

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Year(s)	Baseline Rate	Year 2000 Target Rate
Homicide							
All Homicides - Total Population	1990-92	778	5.4	5.4	1987	8.5	7.2
Age 0-3	1990-92	37	3.9	3.4	1987	3.9	3.1
African American Men, Age 15-34	1990-92	104	103.5	90.8	1987	90.5	72.4
Hispanic Men, Age 15-34	1990-92	42	28.4	28.4	1987	53.1	42.5
African American Females, Age 15-34	1990-92	20	24.8	21.7	1987	20.0	16.0
Native Americans	1990-92	43	16.0	14.0	1987	14.1	11.3
Firearm Homicides Total Population	1990-92	438	3.1	3.1	NA	NA	NA
Aggravated Assault							
Firearm Related - Total Population	1992	3925	76.7	72.3	NA	NA	NA

Data Source(s):

Deaths - Vital Statistics

Aggravated assaults - Washington Association of Sheriffs and Police Chiefs - Uniform Crime Report
Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Homicides include all deaths coded to E960-E969.
Firearm-related homicides include deaths coded to E965.0-E965.4.

Aggravated assault: Attacks intended to inflict severe injury (see Washington Uniform Crime Reports.)

Additional Notes:

Rates are per 100,000 resident population.

Death rates for the total population are age-adjusted

Interpersonal youth violence

Violence among youth aged 10-17 is at an all-time high, with nearly 3,000 youth arrested for violent offenses (homicide, manslaughter, aggravated assault, rape and robbery) in Washington in 1991 (5.3/1,000). This is double the number and rate recorded in 1982 (1,449 and 2.7/1,000 respectively). These figures substantially underestimate the actual number of crimes committed, since reports of committed offenses are three to four times greater than the number of arrests. Young people between the ages of 15 and 24 are at highest risk of committing and experiencing violence.

Factors contributing to youth violence include poverty, racism, poor education, easy access to guns, glamorization of violence in the media, family and community dysfunction, fractured support systems, child abuse and neglect, and abuse of alcohol and other drugs.

Prevention efforts are more cost effective than after-the-fact remedies and interdiction. The statewide average cost of detaining a youth in a state-run juvenile rehabilitation facility is \$47,000 per year. This cost does not include the loss of property, life, or other damages that led to each child's incarceration. Comprehensive case-managed prevention services for high risk youth cost an average of \$1020 per youth. Less intensive services, which may include school or community-based recreational and educational opportunities (but not on a case-managed basis) average \$130 per youth.

Intervention strategies for youth violence include:

- *Promote public education on positive options to violent behaviors and activities.*
- *Promote anger management and conflict resolution training for parents, teachers, other caregivers, and youths.*
- *Promote educational programs and classroom management techniques that enhance self esteem.*
- *Promote entertainment that depicts healthy, respectful relationships among people, and between people and the environment.*
- *Develop Neighborhood Empowerment Zones to promote economically healthy communities.*
- *Create job training and placement programs.*
- *Develop partnerships with and incentives for businesses to create more living wage jobs.*
- *Promote integrated, comprehensive support programs and services for children and families.*
- *Promote programs that offer alternatives to street life for youth, such as after school tutoring, recreational, and mentoring programs.*
- *Promote educational programs that offer positive alternatives to the use of alcohol and other drugs.*
- *Provide treatment and support services for alcohol and other drug abusers.*
- *Conduct public education campaigns on the consequences of deadly weapon use and provide information and role modeling on peaceful alternatives to their use.*
- *Limit access to firearms by youth who are not prepared to use them safely and responsibly.*
- *Recognize media outlets which restrict graphic depiction of violence, and reward responsible parties.*
- *Analyze arrest data to identify high risk groups and geographic areas and to identify modifiable risk factors.*
- *Involve youth in the development of policies and interventions.*

Standards for interpersonal youth violence

	Washington State				United States		
	Year	Baseline Count	Rate	Year 2000 Target Rate	Baseline Year(s)	Year 2000 Target Rate	Rate
Violent Crime - Arrests Among Youth 10-17 Years	1991	2,878	5.3	4.2	NA	NA	NA
Weapons Brought to School by 6th-12th Grade Students	1992	3,028	212.2	169.8	NA	NA	*

Data Source(s):

Violent crime arrests - Washington Association of Sheriffs and Police Chiefs - Uniform Crime Report

Weapons brought to school - SPI/DOH Survey of Adolescent Health Behaviors.

Population statistics - Department of Health, Center for Health Statistics, 7/5/94.

Case Definition(s):

Violent crime includes murder, manslaughter, robbery, aggravate assault, and rape. (See Uniform Crime Reports for additional information.)

Weapons include guns, knives and clubs.

Additional Notes:

Violent crime rates are per 100,000 resident population.

Weapon-carrying rates are per 1,000 6-12th grade students sampled (1992 sample size = 14,269).

* National objective includes 14-17 year olds. Baseline data are not available. It is assumed that a 20% reduction, nationally, can be accomplished by year 2000.

Suicide among youth and young adults

From 1990-1992, 325 young Washingtonians age 15-24 killed themselves. While most public attention is focused on violence committed against others, the suicide rate among youth and young adults in Washington is nearly double that of homicide. Suicide is the second leading cause of death for 15-24 year olds in Washington; it is the third leading cause for that age group nationally.

In 1992, the age-adjusted suicide rate for Washington State was 12.7 per 100,000. The U.S. baseline for suicide was 11.7 per 100,000 in 1987. The suicide rate for males is more than three times higher than the rate for females. Teenagers (15-19 years of age) have the highest combined rate of hospitalized suicide attempts and deaths, followed by young adults (20-24 years of age).

In 1991, 804 hospitalizations for suicide attempts were reported among 15-24 year olds (not including persons treated in emergency rooms or seen by private physicians). By comparison, assaults accounted for about 490 hospitalizations in this age group. The Children's Safety Network estimates the cost of medical care for each hospitalized youth suicide attempt at \$27,501. This equals approximately \$22 million in medical care costs for hospitalized suicide attempts in Washington State among 15-24 year olds in 1991.

A recent Washington survey on adolescent health behaviors found that more than one of ten students has attempted suicide; one fifth of the students at grades 8 and 12 and nearly one fourth of the students in grade 10 had seriously thought about taking their own life. During 1989-91, firearms accounted for 59% of all suicides among 15-24 year olds, far exceeding the next most common cause, suffocation, which accounted for 20%.

Some personal factors which contribute to suicide among young people include depression, abuse of alcohol and other drugs, alienation, inadequate coping skills, unrealistic self-expectations, and an inability to tolerate negative feelings. The research is inconclusive regarding the role of sexual orientation as a possible contributing factor to youth suicide. Community and family factors include availability of lethal weapons, contagion after a completed suicide, media sensationalism regarding suicide, and child abuse and neglect.

Intervention strategies for suicide among youth and young adults include:

- *Educate parents about the increased risk of suicide when firearms are present in a household.*
- *Reduce youth access to firearms.*
- *Institute uniform methods of suicide surveillance in every county in Washington State.*
- *Develop a generic contingency plan to address suicide clusters, which could be tailored for local health departments in the event of a cluster.*
- *Develop skills-building programs in schools for at-risk youth to increase problem-solving abilities; enhance communication skills, and increase academic performance.*
- *Promote early identification and treatment of substance abuse (see standards on substance abuse).*
- *Promote early identification and treatment of mental illness in youth and young adults, including primary care mental health programs in schools.*
- *Increase availability of mental health counseling services for non-psychotic youth, especially those from low income backgrounds.*
- *Develop crisis counseling centers (shown to have a positive effect on white, female adolescents).*

Standards for youth suicide

Washington State					United States		
	Baseline			Year 2000 Target Rate	Baseline		Year 2000 Target Rate
	Year(s)	Count	Rate		Year(s)	Rate	
Suicide Deaths							
Age 15-19	1990-92	124	12.8	11.2	1987	10.3	8.2
Age 20-24	1990-92	201	18.6	18.6	1987	25.2	21.4*
Firearm-Related Suicide Deaths							
Age 15-19	1990-92	74	7.6	6.6	NA	NA	NA
Age 20-24	1990-92	115	10.6	10.6	NA	NA	NA
Nonfatal Hospitalized Suicide Attempts							
Age 15-19	1990-92	1309	135.0	117.0	NA	NA	**
Age 20-24	1990-92	1,126	104.2	104.2	NA	NA	NA

Data Source(s):

Deaths - Vital Statistics Nonfatal hospitalized suicide attempts - CHARS

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Suicide deaths and attempts include events coded to E950-E959.

Suicide attempts are considered nonfatal if patient was alive at time of hospital discharge.

Additional Notes:

Suicide death and attempt rates are per 100,000 resident population.

* National objectives includes only men 20-24 year of age.

** Baseline data expected by 1991. Improvement of 15% expected between 1991 and 2000.

Domestic violence

Former U.S. Surgeon General C. Everett Koop has called domestic violence the major health care problem in the United States, affecting more individuals and families than any other single problem. Domestic violence is recognized as being at the core of other major social problems: individual alienation, child abuse, other crimes of violence against person or property, and abuse of alcohol and other drugs. Domestic violence, along with other types of family violence — child abuse and neglect, sibling violence, and the abuse of the elderly — is destroying families and communities. Efforts to control it have been stalled by the lack of coordinated, comprehensive, community-based, and adequately funded plans.

Domestic violence is a pattern of controlling behavior that consists of physical, sexual, and/or psychological assaults. It is primarily a learned pattern of behavior whose effects, without intervention, become more destructive over time.

Domestic violence, particularly of an injurious or life threatening nature, is primarily perpetrated by men toward women. Women are victims of severe violence in 90% of the cases. (Berk et al. 1983, Rosenbaum et al., 1981, and Ganley, 1989). In addition to the primary victims, children who witness violence between their parents are psychologically affected as though they themselves were the direct victims of abuse.

Battery in domestic settings is the single major cause of injury to women in the United States, exceeding rapes, muggings, and even motor vehicle crashes. The risk of child abuse is significantly higher when partner assault is also reported. Nationally, 75% of battered women say that their children are also battered. It is estimated that in 1992 nearly 30% of all homicides in the United States were a result of domestic violence.

Intervention strategies for domestic violence include:

- *Improve community accountability in responding to domestic violence.*
- *Increase safe shelter and services for victims of domestic violence throughout Washington, and ensure responsiveness to different cultures.*
- *Promote education on domestic violence for all health care and other service professionals.*
- *Enhance the capability of the domestic violence hotline with 24-hour bilingual crisis line staff.*
- *Increase the number of treatment programs for domestic violence perpetrators.*
- *Increase support services for children of battered women.*
- *Improve data collection of domestic violence incidents from criminal justice, health care and other systems.*
- *Develop uniform system of classifying and tracking health care responses to injury and crimes related to domestic violence*
- *Increase government and non-government leadership commitment to ending domestic violence.*

Standardsfordomesticviolence

	Washington State				United States		
	Baseline		Year 2000		Baseline		Year 2000
	Year(s)	Count	Rate	Target Rate	Year(s)	Rate	Target Rate
Physical Abuse of Women							
by Male Partners	NA	NA	NA	*	1985	30.0	27.0
Domestic Violence Homicides	1990-92	157	1.0	0.9	NA	NA	NA

Data Source(s):

Physical abuse: Undetermined

Homicides: Washington Association of Sheriffs and Police Chiefs—Uniform Crime Reports

Case Definition(s):

Physical abuse: Undetermined

Homicides: Includes homicides where relationship of victim to perpetrator is reported as son, wife, daughter, husband, mother, step-daughter, in-law, girl friend, boy friend, ex-wife, ex-husband, common law wife, or homosexual relationship.

Additional Notes:

Abuse rates are per 1,000 couples. Domestic violence homicide rates are per 100,000 resident population

* Baseline data expected by 1995. Improvement of 3.3% expected between 1995 and 2000

Sexualassault

The term sexual assault refers to a broad continuum of violent acts which include sexual contact. The sexual contacts can take a variety of forms and have varying levels of intrusiveness, but they have a common purpose to exert control and power over the victim and/or to achieve sexual gratification at the expense of another. Examples of sexual assault include: harassment, indecent liberties, marital rape, child molestation, rape of a child, incest, and rape.

Women who have been sexually assaulted are often reluctant to report the crime to law enforcement. Far too often, experience has shown that reporting results in attitudes and actions which blame the victim and make it extremely difficult to get help. The result is that rape is one of the most under-reported crimes in the U.S. The FBI currently estimates that only 10% of rapes and attempted rapes are reported to a law enforcement agency. The study "Rape in America: A Report to the Nation" states that 78% of all forcible rape victims knew their attackers; only 16% of acquaintance rape victims, however, reported the crime to the police.

According to the Washington State Uniform Crime Report, 3,664 females reported to police that they were victims of forcible rape or attempted rape in Washington in 1992. On the other hand, over 20,000 victims of sexual assault sought state-funded services in Washington during fiscal year 1993.

Another factor hindering a clear assessment of rape as a public health problem is that available data on rape includes rape of females only. The Uniform Crime Report uses an antiquated common law definition of "rape," which is recognized as no longer accurate. Rape of males, if reported as a crime, is classified as a Class II (non-violent) sex offense. In addition, there are definitional differences which confuse the situation. For example, the federal Victims of Crime Act defines "primary" and "secondary" victims, but Washington State agencies do not use primary and secondary terminology.

Sexual abuse has been linked to abuse of alcohol and other drugs, mental health problems, teen pregnancy, runaways, prostitution, school dropout, child abuse and neglect, and suicide. Women who have been victims of rape are 13.4 times more likely to have had two or more major alcohol-related problems than women who had never been crime victims (Rape in America, 1992). In a clinical sampling, it was found that 70% of women seeking psychiatric emergency room care had been victims of sexual abuse (Briere & Zaidi, 1989). Two-thirds of a sample of young women who became pregnant as adolescents had been sexually abused; this rate is two times higher than for the general population (Boyer & Fine, 1992). In a survey of low-income (recipients of AFDC), single mothers, it was found that the mother's history of child sexual abuse greatly increases the odds for her children being victims of neglect (Zuravin & DiBlasio, 1992.)

Intervention strategies to deal with sexual assault include:

- Expand community education efforts regarding incidence, prevention strategies, attitudinal change, and awareness by professionals of early intervention and reporting procedures.*
- Assure prompt and early treatment of child sexual assault victims to reduce the trauma of sexual abuse and alleviate the long term effects.*
- Assure prompt treatment of youthful sexual assault offenders, so they will be less likely to re-offend.*
- Increase the availability of advocacy services that enable victims to report.*
- Enact passage of laws guaranteeing a rape victims' confidentiality in news media reporting.*
- Improve and coordinate data collection from criminal justice, health care, social service, and other agencies.*
- Develop a uniform data collection and tracking system, with uniform definitions, which permits year to year comparison of data.*
- Work with established community-based sexual assault programs to improve the legal rights of sexual assault victims.*

Standards for sexual assault

	Washington State				United States		
	Baseline			Year 2000	Baseline		Year 2000
	Year(s)	Count	Rate	Target Rate	Year(s)	Rate	Target Rate
Reported Rapes	1992	3,664	149.3	156.8*	1986	120.0	108.0**

Data Source:

Rape - Washington Association of Sheriffs and Police Chiefs-Uniform Crime Reports.

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Rape of females, as reported to law enforcement agencies.

Additional Notes:

Rape rates are per 1,000 resident female population.

* It is assumed that rape is under-reported. An increase in the reported rapes will mean that reported rates more closely approximate the true incidence.

** National objective includes only females age 12 and older.

Traffic crash injury and death

Motor vehicle traffic crashes are a major cause of death in Washington State. In 1992, 747 people were killed in traffic collisions in the state. Young drivers (age 16 to 20) are substantially over-represented in crashes, accounting for 2.4 times more crashes than their proportion of the driving population. Motor vehicle crashes are the leading cause of unintentional injury and death for children aged 1 - 14 in Washington.

Current Washington law only allows for secondary enforcement of seat belt laws for adults (i.e. law enforcement may not stop vehicles for a seat belt violation, but they may ticket for seat belt violation if the vehicle is stopped for another unrelated offense). It is estimated that seat belt usage may be increased by as much as 10% if the law becomes primary.

Current law requires children to be secured in approved child safety seats up to three years of age. Child safety seats lower a child's chance of death by 71% and chance of injury by 69%. Compared to child safety seats, safety belts offer young children less protection, with a 29.5% effectiveness in preventing fatalities for toddlers. In 1991, child safety seat use prevented more than 180 deaths and 70,000 injuries nationwide, at a total savings of \$3.5 billion, including \$221 million in medical costs.

Alcohol remains a major contributor in traffic fatalities. In 1992, 47.3% of all traffic fatalities in Washington involved a driver with alcohol in their system. Teenage drivers with blood alcohol concentrations of 0.05% to 0.10% are far more likely than sober teenage drivers to be killed in single-vehicle crashes.

A Maryland study of its provisional licensing program showed a 5% reduction in crashes for 16 and 17 year olds. A California study of its provisional licensing system found a reduction of 5.3% in crashes involving 15 to 17 year old drivers.

Intervention strategies include:

- *Promote public education for the general public on seat belt use and safe driving.*
- *Promote legislation for primary enforcement of seat belt laws.*
- *Implement convertible child safety seat give away and subsidy programs for all low income babies.*
- *Enhance child safety seat loaner programs.*
- *Promote safety restraint legislation that will strengthen current law to require child safety seats up to age four or weight of forty pounds.*
- *Promote administrative license suspension (ALS) laws while maintaining the positive aspects of the state's deferred prosecution program.*
- *Change driving under the influence (DUI) standards to .08 blood alcohol level for adults.*
- *Strengthen the Emergency Medical Services/Trauma System to reduce the potential for death and disability that might result from traffic injuries.*
- *Expand the hospitalization data set to include the location of the injury incident; currently, only the location of the hospital to which the person is transported is reported.*

Standards for traffic crash injury and death

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Year(s)	Baseline Rate	Year 2000 Target Rate
Motor Vehicle Deaths							
Total Population	1992	747	14.2	12.8	1987	18.8	16.8
Age 15-19	1990-92	287	22.0	19.8	1987	36.9	33.0*
Age 0-14	1990-92	151	3.3	3.0	1987	6.2	5.5
Motor Vehicle Hospitalizations							
Total Population	1992	5,307	106.2	100.9	NA	NA	NA
Safety Factors							
Safety Belt Use: Automobile Driver	1993	124,248	78.1	85.0	1988	42.0	85.0
Car Seat Use: Age 0-4	1993	3,421	47.7	60.0	NA	NA	NA
Drinking and Driving: 12th Grade Students	1992	484	21.0	10.0	NA	NA	NA

Data Source(s):

Motor vehicle deaths - Vital Statistics
 Motor vehicle-related hospitalizations - CHARS
 Seat belt use - Washington Traffic Safety Commission-1993 Fall Observation Survey
 Child restraint use - Washington Traffic Safety Commission-MV Crash Statistics
 Drinking and driving - SPI/DOH Survey of Adolescent Health Behaviors
 Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Motor vehicle injuries include all deaths or hospitalizations coded to E810-E825.
 Seat belt use includes drivers wearing a shoulder harness.
 Child restraints include car seats (lap/shoulder restraints not included).
 Drinking and driving includes 12th grade students who report drinking and driving at least once during the 30 days preceding the survey date.

Additional Notes:

Motor vehicle death and hospitalization rates are per 100,000 population.
 Death rates for the total population are age-adjusted.
 Safety belt use rates are per 100 observed drivers (1993 sample size = 159,100)
 Child restraint use rates are per 100 children in motor vehicle crashes (1993 crash count = 7,172)
 Drinking and driving rates are per 100 12th grade students sampled (1992 sample size = 2,270)
 * National objective includes 15-24 year-olds.

Falls among older adults

Unintentional fall-related injuries were the leading cause of injury death among older adults during 1989-1991. The rate of injury death for 70-74 year olds was 14/100,000 while the rate for those 85 years of age or older was 156/100,000. Most falls (77%) occur in the home. Rates of hospitalization for falls increase with age. For those 85 or older, the rate of such hospitalization for the 1989-1991 period was 4904/100,000.

Falls are the leading cause of injury-related hospitalization in Washington, averaging 14,754 hospitalizations per year (over three times the number due to motor vehicle crashes). Almost 60% of fall-related hospitalizations are of adults age 65 and over.

In addition to death and serious injury, falls frequently result in the loss of independence for older adults. Forty-two percent of older adults admitted to hospitals for fall-related injuries are discharged to nursing homes or intermediate care facilities.

In 1989, over \$53 million dollars in hospital charges alone were generated because of fall-related injuries to people 65 years of age and older. Depending on the injury, falls often result in the need for extensive rehabilitation, at a cost much greater than initial hospitalization.

Forecasts of population growth predict that the 1990 population of persons over 75 (238,000) will grow to 464,000 by 2020, with a more rapid growth among those aged 85 and older. This rapid growth, coupled with the fact that this segment of the population suffers the highest risk of both death and hospitalization from fall-related injuries, portends a dramatic increase in such fall injuries over the next several decades, unless comprehensive prevention measures are taken. As with most injury prevention strategies there is no single intervention which will, by itself, dramatically reduce the impact of fall injuries. Success lies in the promotion of several strategies to bring about an overall reduction of statistical risk.

Intervention strategies for prevention of falls include:

- *Set standards of care for health care providers, clinics, and health care institutions to insure that risk of falling is routinely assessed and addressed.*
- *Set more rigorous safety standards for new housing intended for older adults and provide economic incentives for older adults in existing housing to retrofit their homes with adequate lighting, stairway railings, non-skid surfaces, grab bars, etc.*
- *Conduct public information and awareness campaigns and provide economic incentives to encourage older adults to purchase appropriate footwear and make other environmental improvements that reduce their risk of serious fall-related injuries.*
- *Encourage programs and incentives that reduce the social isolation of at-risk older adults through the provision of in-home services, by family members, health care providers, and volunteers.*
- *Encourage appropriate exercise and nutritional change among women in their 40s to prevent or reduce physiological changes that can increase the risk of falls-related injuries in later years.*

Standards for falls and fall-related injuries

	Washington State				United States		
	Baseline			Year 2000 Target Rate	Baseline		Year 2000 Target Rate
	Year(s)	Count	Rate		Year(s)	Rate	
Fall Deaths							
Total Population	1992	302	3.3	3.0	1987	2.7	2.3
Age 65-84	1990-92	296	18.7	16.5	1987	18.0	14.4
Age 85+	1990-92	304	174.6	153.6	1987	131.2	105.0
Hospitalization for Hip Fracture							
Age 65+	1990-92	12,297	700.6	630.6	1988	714.0	607.0
Women Age 85+*	1990-92	3,812	3074.7	2224.9	1988	2721.0	2177.0

Data Source(s):

Deaths - Vital Statistics

Hospitalizations - CHARS

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Falls and fall-related injuries include all deaths coded to E880-E888.

Hip fracture includes all resident hospitalizations with a principal diagnosis of N820.

Additional Notes:

Rates are per 100,000 resident population.

Death rates for the total population are age-adjusted.

* U.S. baseline and target are for white women 85 and older

Bicycle crashes

During 1989-91, 35 deaths attributed to bicycling were reported, an overall death rate of 0.2/100,000. Nineteen of these deaths (54%) occurred to riders under the age of 19 years. Bicycling injuries accounted for 1618 hospitalizations over this same time period for an overall hospitalization rate of 11.1/100,000. It was the second leading cause of unintentional injury hospitalization for children 5-14 years old (707 hospitalizations).

In addition to the deaths from bicycle injuries, almost 10% of patients hospitalized for bicycle related injuries are transferred to other facilities for additional or long term rehabilitative care. Head injuries are the most frequent injury suffered by a bicycle rider and often leave the victim with residual deficits that require long term intervention and follow-up.

Bicycle helmets reduce the risk of serious head injuries by 85%. A 50% helmet use rate would result in 840 fewer head injuries among children ages 5-9 over a five year period. This reduction would achieve a cost savings of approximately \$9.5 million, based on the median cost of hospitalized head injuries of \$11,306.

Intervention strategies to reduce bicycle injuries include:

- *Require all riders to wear bicycle helmets. Provide subsidized or no-cost helmets for low income bicycle riders.*
- *Promote training and education on the fitting and wearing of bicycle helmets.*
- *Implement bicycle training programs and incentives for those who purchase bikes.*
- *Educate motor vehicle drivers and bicyclists on the rules of the road with respect to bicyclists.*
- *Incorporate transportation system design features that safely accommodate bicyclists, including separated bike paths, painted bike "lanes," widening and paving rural shoulders as well as other modifications.*

Standards for bicycle crash injuries

	Washington State				United States		
	Baseline		Year 2000		Baseline		Year 2000
	Year(s)	Count	Rate	Target Rate	Year(s)	Rate	Target Rate
Bicycle-Related Hospitalizations	1989-91	1,618	11.1	8.9	NA	NA	NA
Bicycle Helmet Use Among All Cyclists	1984	641	39.5%	50.0%	1984	6.0	50.0

Data Source(s):

Bicycle-related hospitalizations - CHARS

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Bicycle helmet use - Traffic Safety Commission

Case Definition(s):

Bicycle-related hospitalizations include all hospitalizations coded to E800.3, E801.3, E802.3, E803.3, E804.3, E805.3, E806.3, E807.3, E810.6, E811.6, E812.6, E813.6, E814.6, E815.6, E816.6, E817.6, E818.6, E819.6, E820.6, E821.6, E822.6, E823.6, E824.6, E825.6, E826, E826.1, E826.9.

Bicycle helmet use based on observation of bicyclists.

Additional Notes:

Bicycle hospitalization rates are per 100,000 resident population.

Bicycle helmet use rates are per 100 cyclists, based on observation of 1,624 cyclists.

Drowning

Unintentional drowning is the second leading cause of injury death for children under 5 years of age in Washington, with a rate of 3.6/100,000, and the third leading cause of unintentional injury death for children 5-19 years old. From 1989 through 1991, 100 children under the age of 19 died due to unintentional drowning. For the total population, drowning is the fourth leading cause of unintentional injury death in Washington, with 345 deaths from 1989 through 1991, a rate of 2.4 per 100,000.

The circumstances of drowning deaths vary with age. For children under five years of age, the leading site of drowning death in Washington is swimming pools, followed by bathtub drowning. For children 5-14 years old, pools and open water swimming are the leading sites, with boating and open water swimming the leading circumstances in the 15-24 year age group. Boating is the leading cause after the age of 25.

Typical preventable causes of drowning include leaving young children unattended, inability to swim, lack of knowledge of water safety, lack of personal flotation devices when boating or near open water, lack of lifeguards in designated swimming areas, use of alcohol and other drugs while boating or swimming, and boating under unsafe conditions.

Recreational water health issues other than drowning are discussed in the environmental health section of this appendix.

Intervention strategies to prevent drowning include:

- Develop data collection capabilities on use of personal flotation devices among boaters in order to identify areas with low usage and high drowning rates for targeted interventions.
- Promote legislation requiring isolation pool fencing for new and existing residential pools.
- Promote education on CPR, water safety, and close supervision of young children around water.
- Promote education of older children concerning use of personal flotation devices around water, drowning risks, the dangers of alcohol and other drug consumption, and CPR.
- Promote adult education about the risks of using alcohol and other drugs around water, safe boat operation, the importance of wearing life jackets, and carrying necessary safety equipment.
- Enforce laws regulating use of alcohol while boating.

Standards for water-related injuries

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Year(s)	Rate	Year 2000 Target Rate
Drowning Deaths							
Total Population	1992	126	2.6	2.0	1987	2.1	1.3
Age 0-4	1990-92	21	1.8	1.8	1987	4.2	2.3
Males, Age 15-34	1990-92	137	5.8	4.2	1987	4.5	2.5
Boating-Related Drownings							
Total Population	1990-92	92	0.6	0.5	NA	NA	NA

Data Source(s):

Deaths - Vital Statistics

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Drowning includes all deaths or hospitalizations coded to E830, E832 and E910.

Boating-related drownings include deaths coded to E830.0-E830.4, E830.8- E830.9, E832.0-E832.4, and E832.8-832.9.

Additional Notes:

Drowning and boating death rates are per 100,000 resident population.

Death rates for the total population are age-adjusted.

Fires and burns among young children

Unintentional fires, burns, scalds and related asphyxia are the second leading cause of injury hospitalization for children under five years of age in Washington, with an average of 446 hospitalizations per year.

According to the Children's Safety Network, the average cost for medical care for a hospitalized burn victim in Washington is \$50,009; the average medical care cost for a hospitalized scald burn victim is \$39,753. Costs related to lost productivity and quality of life are much higher.

Smoke detectors have been shown to reduce the potential death in 86% of fires and the potential of severe injuries in 88%. In 30.4% of all fires no smoke detection system was present. Numerous studies have examined the efficacy of smoke detector giveaway campaigns or low-cost purchase opportunities, with results suggesting that such programs should be carefully targeted at low-income neighborhoods known to have high proportions of children and/or elderly residents. Cigarettes are estimated to cause 45% of all fires and 22%-56% of deaths from house fires.

Nationally, children under five cause more than 5,000 residential fires by playing with lighters, resulting in approximately 150 deaths and more than 1,000 injuries. The Consumer Product Safety Commission estimates that two-thirds of these fire-related deaths will be prevented by new standards mandating that disposable lighters be child-resistant.

Fire safety education is a promising intervention and is most effective through a multifaceted approach. Individual fire safety education programs have been evaluated with mixed results, indicating a need for monitoring and evaluation of fire safety education programs in reducing incidence of fire and burn-related morbidity and mortality.

Intervention strategies for prevention of fires and burns include:

- *Promote smoke detector giveaway and installation programs to address high risk, low income populations.*
- *Promote smoke detector battery giveaway through fire departments and regular public health nurse home visits.*
- *Establish building codes requiring sprinkler systems in all new housing.*
- *Promote legislation allowing only fire-safe cigarettes that self-extinguish.*
- *Enforce new standards for child-resistant lighters.*
- *Promote education regarding fire safety, including development of home fire safety plans.*
- *Develop legislation for statewide and tribal bans on the sale of dangerous fireworks.*
- *Promote public education to avoid illegal fireworks, use fireworks safely, and attend professional displays as a safe alternative.*
- *Ban the sale of baby walkers, which allow very young children to reach stove-top pots and pans, creating a serious scalding hazard and potentially long-lasting disfigurement.*
- *Promote legislation requiring water temperature regulators to prevent surges and subsequent scalds. Assure that all new water heaters have temperature regulators. Promote incentives for families to retrofit older homes to protect children from tap water scalds.*
- *Promote use of spill-proof containers for hot liquids in homes with young children.*

- Include fire and burn prevention education in parenting classes.
- Require standardized fire and burn prevention education for all daycare facilities and preschools.
- Promote community fire and burn prevention education programs that focus on home hazard surveys, home fire evacuation planning, and home detection and suppression equipment.

Standards for fires and burns

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Year(s)	Baseline Rate	Year 2000 Target Rate
Residential Fires							
Deaths, Age 0-4	1990-92	21	1.8	1.8	1987	4.4	3.3
Burns and Fire-Related							
Asphyxia							
Deaths, Age 0-4	1990-92	21	1.8	1.8	NA	NA	NA
Hospitalizations, Age 0-4	1990-92	452	39.0	33.0	NA	NA	NA
Safety Factors							
Functional Smoke Detectors in Homes	NA	NA	NA1	*	1989	81.0	100.0
Functional Fire Extinguishers in Homes	NA	NA	NA7	*	NA	NA	NA

Data Source(s):

Fire and burn deaths - Vital Statistics

Fire and burn-related hospitalizations - CHARS

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Residential fire deaths include all deaths coded to E890-E899.

Burns and fire-related asphyxia includes deaths and hospitalizations coded to E890-E899 and E924.

Additional Notes:

Death and hospitalization rates are per 100,000 resident population.

Smoke detector and fire extinguisher rates are per 100 homes.

* Baseline data not available. Data of availability unknown. It is assumed that at least 95% of Washington residences should have functional smoke detectors and fire extinguishers by the year 2000.

Pedestrianinjuries

Pedestrian injuries tie with drowning as the third leading cause of unintentional injury death for 1989-1991 (2.4/100,000). This was the second leading cause of unintentional injury death for children 5-19 years old for the same time period. Because of their greater vulnerability, adults over the age of 60 suffered the highest death rate. In addition to fatalities, pedestrian motor vehicle collisions often result in serious debilitating injuries that require long term medical and rehabilitative care.

Causes of pedestrian injuries include street designs which encourage high speed traffic in localities where pedestrian travel is also necessary, acute alcohol intoxication among adult pedestrians, frailty and underlying disease processes of older adults, and inadequate driver awareness of pedestrian laws and traffic.

The primary intervention strategy is to promote the wide dissemination of the 1993 Washington State Department of Transportation and Washington Traffic Safety Commission Strategic Pedestrian Plans to local communities and provide consultative services to groups to implement pedestrian safety programs in their communities. These plans provide guidelines for the development of pedestrian safety programs aimed at local government, educators, law enforcement and engineering professionals, families and the media. The success of these programs lies in the coordination and customization of efforts rather than a simple mechanical implementation of individual pieces.

Standardsforpedestrianinjuries

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Baseline Year(s)	Rate	Year 2000 Target Rate
Pedestrian Deaths							
Total Population	1992	105	1.8	1.8	1987	3.1	2.7
Age 5-19	1990-92	54	1.7	1.6	NA	NA	NA
Age 60+	1990-92	99	4.3	4.0	NA	NA	NA
Pedestrian Injury Hospitalizations							
Total Population	1990-92	1,863	12.1	11.1	NA	NA	NA

Data Source(s):
Pedestrian deaths - Vital Statistics
Pedestrian injury hospitalizations - CHARS
Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):
Pedestrian injuries include all deaths or hospitalizations coded to

Additional Notes:
Pedestrian death and hospitalization rates are per 100,000 resident population.
Death and hospitalization rates for the total population are age-adjusted.

School playground injuries

In 1990-1992, school playground injuries caused 1,138 hospitalizations among children 10-17 years of age. Children between the ages of 10 and 17 are more likely to be injured at school than anywhere else. There are as many as 50,000 school playground injuries in Washington State every year. Exact costs of playground injuries in Washington are not known.

Effective supervision of playgrounds is needed at schools to properly instruct children and to maintain discipline. This is perhaps the most important and cost-effective aspect of school playground injury prevention.

In Washington, falls from climbing devices, swings, and playground equipment with decks or platforms are responsible for 81%, 43%, and 47%, respectively, of the reported incidents. This is consistent with school injury surveillance results in other studies.

Establishing and enforcing rules of behavior on school playgrounds is important in preventing injuries. Costs of doing this mainly involve scheduling adequate, knowledgeable staff to be on the playgrounds during the children's periods of "free play."

The State Board of Health is required by statute to regulate virtually all aspects of K-12 school health and safety. Local health departments are required to perform inspections of schools, including playgrounds. The costs of doing inspections are not precisely known, since they are not currently being done by most local health departments. A rough estimate of required time is 3 hours times 1471 schools, or 4,413 hours per year, plus travel, meetings and administrative time. Approximately five staff would be needed, statewide, to inspect school playgrounds, evaluate their supervision programs, and check the injury reporting systems for consistency and completeness. These inspections should be supplemented by parents and school insurance companies.

Resilient surfacing is needed underneath all play equipment, depending on its height. While there is a cost of approximately 80 cents per square foot up to twelve or thirteen dollars per square foot, there is a direct correlation between fall-protection surfacing and injury severity.

Plan reviews of playgrounds are needed to assure that spacing between adjacent pieces of equipment is adequate to prevent children from running into each other or pieces of equipment. There is no additional cost of proper equipment spacing for new playgrounds, beyond the resilient surfacing cost mentioned earlier. Some existing playgrounds may require relocating or removal of some play events.

Equipment maintenance, including aeration of loose-fill surfacing is important. Children get hurt when swings break and they fall on hard-packed sand, bark, or pea-gravel surfacing. Periodic maintenance is needed to keep the surfacing resilient and see that there is no broken glass, protruding nails, or other hazards associated with ordinary playground wear and tear.

Intervention strategies for prevention of school playground injuries include:

- *Supervise school playgrounds effectively.*
- *Promote reduction in falls from equipment over four feet tall.*
- *Provide training and education on proper use of equipment for children and teachers.*

- Teach hazard identification and elimination to parents, schools, children and local public health agencies.
- Teach playground rules to children.
- Promote annual inspection of playgrounds by local health agencies
- Assure adequate resilient surfacing below equipment.
- Promote plan reviews prior to playground construction.
- Promote regular inspection of playgrounds by schools and parent groups.
- Maintain playground equipment and aerate loose-fill surfacing material.

Standards for school playground injuries

Washington State					United States		
	Baseline		Year 2000		Baseline		Year 2000
	Year(s)	Count	Rate	Target Rate	Year(s)	Rate	Target Rate
Playground Injuries							
All	NA	NA	NA	*	NA	NA	NA
Hospitalizations Age 5-12	1990-92	642	36.2	30.8	NA	NA	NA
Safety Factors							
Appropriate Surfacing	NA	NA	NA	*	NA	NA	NA

Data Source(s):

Playground Hospitalizations - CHARS

All playground injuries - Data will be available in 1994 through the DOH, Environmental Health, School Playground Injury Database.

Appropriate surfacing - Data will be available in 1994 through the DOH, Environmental Health, School Playground Injury Database.

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Case Definition(s):

Playground hospitalizations include events coded to E884.0, E886.0 and E917.0.

All playground injuries - See school playground injury reporting requirements.

Poisoning

While unintentional poisoning deaths among young children have decreased, they remain the third leading cause of injury hospitalization for children under five. In 1992, 52,770 calls were made to poison centers regarding potential poisoning of children 5 years of age and under. Of those, 3,893 were then referred for treatment in a health care facility.

Additionally, 23,307 calls related to adults were received during 1992. Although 19.5% of these were intentional misuse or abuse, 18,760 calls were related to incidents including adverse reactions to medications, interactions of medications, occupational and environmental exposures, birth defect concerns, and hazardous materials. National data show that adult poisonings are usually more serious than pediatric poisonings, and trends indicate increased utilization of poison centers for adult concerns.

Preventable causes of poisoning morbidity and mortality include improper poison storage, lack of awareness of potential poisoning dangers and safety precautions in occupational settings, inadequate child-resistant containers, inadequate parent and

employer/employee education on prevention strategies, lack of ipecac syrup in homes with young children, lack of awareness of the poison center, lack of awareness of services for adults, and delays in seeking treatment of poisoning patients.

Intervention strategies include:

- Maintain rapidly responsive information and referral services provided by the Washington Poison Center.
- Strengthen and enforce the Poisoning Prevention Packaging Act.
- Promote public education of the value of ipecac syrup in all homes and encourage ipecac distribution programs for families with young children.
- Promote education for parents on child-proofing and elder proofing homes and how to obtain emergency treatment.
- Promote education for health care providers on appropriate treatment methods.
- Promote education for workers and employers on the safe use of occupational chemicals and the need to access the poison center to handle poisoning incidents.
- Promote surveillance capacity for determining appropriateness of emergency visits and hospitalizations for poisoning exposure to poisons and toxins.
- Conduct household surveillance to assess existing prevention efforts for appropriateness and effectiveness.

Standards for poisoning

	Washington State				United States		
	Year(s)	Baseline Count	Rate	Year 2000 Target Rate	Year(s)	Baseline Rate	Year 2000 Target Rate
Poison-Related Hospitalizations							
Age 0-4	1989-91	434	38.7	31.2	NA	NA	NA
Poison Center Calls							
Total Population (all calls)	1992	127,229	2586.5	2486.5*	NA	NA	NA
Adults Age 20+	1992	18,760	515.9	541.7*	NA	NA	NA

Data Source(s):

Poison-related hospitalizations - CHARS

Poison center calls - Washington Poison Center

Population statistics - Dept. of Health, Center for Health Statistics, 7/5/94

Poison-related hospitalizations include all events coded to E850-E869.

Case Definition(s):

Poison center calls include calls for help placed to Washington Poison Centers.

Additional Notes:

Rates are per 100,000 resident population.

Rates for the total population are crude (not age-adjusted) rates.

* It is assumed that poison centers are currently under-utilized. An increase in the poison center call rates will reflect increased poison center utilization.

Family and individual health

Family and individual health issues are affected by an array of physical, emotional and environmental factors. As health system reform takes place within Washington and the United States, individual and family health concerns will likely be viewed as medical care needs which will be addressed by managed care providers with certified health plans.

The root causes of family and individual health problems, however, include a complex combination of environmental, social, and psychological factors which require broad interventions in conjunction with medical care. Successful prevention and treatment of individual and family illness, injury, disability, and premature death require assessment and understanding of a wide range of factors and multi-disciplinary, comprehensive prevention and treatment strategies.

This report describes and develops standards for the following health issues:

- *Infant and child morbidity*
- *Infant mortality*
- *Nutrition*
- *Adolescent health*
- *Oral health*
- *Emotional well-being of children*
- *Reproductive health care*
- *Primary prevention of chemical misuse*
- *Chemical use in pregnancy*

Not included in this appendix are other health-related issues which affect individuals throughout their life span and which will affect the overall health and effective functioning of families such as: preventable health issues related to aging; women's health issues, including reduction of risk factors; the primary health care needs of children and adolescents with special health care needs; adult and child developmental disabilities; and asthma. These areas, and others, will need to be addressed in future reports.

The strategies listed in this section are not exhaustive, but are examples of strategies which should be employed on the state and community level to address the identified urgent needs. The strategies listed will necessitate, in many cases, a redefinition of healthy behaviors. They will also require efforts which go beyond those of health care providers, insurers, and health policy makers. Many of the urgent health needs described in this section are the result of social and economic factors as well as individual health status.

Many of the health issues addressed here have been viewed in the past as subjects which can be treated independently of social, environmental, and psychological factors. The standards developed for family and individual health are based on the assumption that cost effective health care for individuals and families cannot be achieved without the development of community-based strategies to promote healthy behaviors and prevent disease, injury, disability, and death. These strategies, in order to be effective, must be comprehensive, coordinated, culturally relevant, community-based, and family-centered.

The development and evaluation of effective strategies necessitate the development and implementation of population-based surveillance and data-collection methods which accurately report the number of people affected by a specific addiction or disease and

which begin to measure environmental, social, physical, and psychological conditions which increase the risk of disease, injury, disability and death. The development of such assessment tools for use by all communities and populations would allow the analysis of contributing factors and evaluation of prevention and intervention methods to determine the success and cost-effectiveness of such methods.

As more comprehensive, effective assessment methods are initiated, rates of incidence will be higher, at least in the first few years, due to improved definitions of the problems and more complete reporting. Therefore, the determination of successful health promotion and prevention strategies may, in some cases, take several years.

Infant and child morbidity

Predictable and often preventable events during the perinatal period and infancy contribute to adverse health and developmental outcomes that are costly to the individual, the family, and to society. Significant areas of concern include:

- Birth defects and genetic disorders
- Inadequate caregiving
- Low birth weight/prematurity
- Injuries and violence
- Vaccine preventable and infectious diseases
- Prenatal exposure to alcohol and other drugs

The causes of these problems, and the ways to prevent them, are multiple and often interrelated. Of the 142,800 children born to Washington residents during 1987 and 1988, 2.6% had one or more significant birth defects diagnosed before one year of age. At least 5.3% of preschool children have diseases that are caused by a genetic factor.

Intervention strategies to reduce infant and child morbidity include:

- Institute a universal statewide tracking and follow-up system that assures early identification of health or developmental problems, and linkage to primary and specialty health care and early intervention services.
- Initiate, in local communities, on-going evaluation of perinatal and infant health service availability and emerging community needs.
- Evaluate impact of strategies on outcomes by integrating and enhancing data collection systems such as the Birth Defects Registry, Pregnancy Risk Assessment Monitoring System, Child Health Tracking, Health Services Information System, Pediatric Nutrition Surveillance System, hospital data, and vital records.
- Develop standards to be used by primary care providers for all patients in child bearing years to identify genetic risk factors and make referrals when appropriate.
- Expand the existing law requiring that patients be informed of the availability of prenatal testing; require standardized follow-up care for positive cases statewide.
- Develop a statewide screening and referral system (prenatally, at birth, and throughout infancy and early childhood) for pregnant women and infants based on multiple risk factors (including biomedical, genetic, psychosocial, and environmental) that affect health and development.
- Develop policies across systems of care that help parents in every community get information and services for their children, including referral to appropriate services, information about the roles of various providers, coordination of multiple resources, and follow-up.
- Include genetic testing and counseling in the Uniform Benefits Package.

- *Institute an ongoing public awareness campaign through the media, school-based health education, parent education, and other forums about the importance of healthy behaviors and preventive health care, genetic health care issues, early warning signs, and community resources available for pregnant women, infants, and young children.*
- *Promote community information and referral systems for all families and providers.*
- *Assure universal access to prenatal care, including screening for psychosocial, genetic, and biomedical risks. Provide education on how to assure a healthy outcome.*
- *Assure that all women of child bearing age who are capable of becoming pregnant receive 0.4 mg of folic acid per day to reduce their risk of having a pregnancy affected with spina bifida.*
- *Make available printed materials and continuing educational opportunities to all primary care and prenatal care providers regarding new genetic technologies, and the purpose, potential benefits, and limitations of genetic screening/testing, counseling, and prenatal diagnosis.*
- *Expand the Teratogen Information System (TERIS) which provides technical assistance, consultation, and education to primary care providers.*
- *Continue and strengthen the newborn screening program.*
- *Assure perinatal home visitation services beginning prenatally to reduce risk factors for poor birth outcomes and child health and development.*
- *Assure that all infants and children have access to and providers are prepared to provide regular, repeated health and developmental monitoring/screening.*
- *Promote children's health and development through information, consultation, and screening in child care settings.*
- *Assure availability of community-based, culturally sensitive, and family centered assessment and early intervention services for infants and young children at risk or having special health or developmental needs.*
- *Assure that all infants and young children with special health care needs, and their families, have access to tertiary care for initial and ongoing medical and surgical treatment, and adaptive equipment. These services must be coordinated with the primary care provider, and address genetic, developmental, learning, and behavioral concerns.*

Infant and child morbidity standards

	Washington State				United States		
	Baseline			Year 2000	Baseline		Year 2000
	Year(s)	Count	Rate	Target Rate	Year(s)	Rate	Target Rate
% Women Abstaining from Alcohol in pregnancy	1992	73,550	93%	94%	NA		
% Providers offering prenatal screening	1993	NA	80%	90%	1987	76%	90%
% First trimester prenatal care	1992	60,235	80%	90%	NA		90%
% Very Low Birth Weight delivered in Level 3 facilities	1992	490	71%	90%	1987	6.9%	5%
% Low Birth Weight:	1992	4,219	5.3%	4.2%			
% Very Low Birth Weight	1992	686	0.9%	0.7%	1987	1.2%	1%

Sources

Community and Family Health Services
Genetics Services
Center for Health Statistics
Healthy People 2000

Infant mortality

Infant mortality in Washington State has decreased from 9.1 per 1,000 live births in 1989 to 6.8 per 1,000 births in 1992. More infants are surviving their first year of life today than at any other time in Washington State's past, but the infant mortality rates for some populations remain high, and disparities among racial and ethnic groups persist. Infants born to African American and Native American women are 2-3 times more likely to die before their first birthday than infants born to white women.

In 1992, 79,412 infants were born to women living in Washington. Some 538 of these infants died before reaching their first birthday. Of these deaths, 288, or 3.6 deaths per 1,000 live births, occurred in the neonatal period (the first 27 days of life); 250, or 3.1 deaths per 1,000 live births, occurred in the postneonatal period (28 days to one year of life). Since 1980, Washington's overall infant mortality rate has been lower than the national average, but our postneonatal mortality rate has actually been higher.

Strategies to reduce infant mortality include:

- *Fund culturally competent, community-based, interdisciplinary prenatal care services that include risk assessment, health promotion education, general information about pregnancy and parenting, and interventions to reduce psychosocial risk, including a program of public health nurse home visits, nutrition services, and referral and consultation with other providers.*
- *Mobilize key community organizations and individuals, especially African American and Native American health professionals and community leaders, to address infant mortality.*
- *Establish community forums in which professionals, community advocates, public agencies and consumers can resolve problems that arise in the delivery of perinatal services.*

- *Provide appropriate child care, transportation, and interpretive services to help pregnant and postpartum women obtain care for themselves and their infants.*
- *Develop a 24-hour community clearinghouse for information on family planning, pregnancy, parenting, and pediatric services.*
- *Disseminate understandable information through media and other means about preterm birth, infant mortality, and access to obtain prenatal care.*
- *Increase availability of culturally appropriate outreach and case finding that provides information about resources to at-risk residents who have difficulty securing maternity care or other services.*
- *Provide community-based educational classes and resource information for pregnant women at risk for preterm birth.*
- *Implement physical abuse prevention strategies.*
- *Increase nutrition services for the child bearing population.*
- *Increase participation and early enrollment of pregnant women in the Women, Infant and Children (WIC) program.*
- *Continue school-based comprehensive health education that includes age appropriate reproductive health information.*
- *Provide reproductive health screening for all individuals in at least one health encounter during a year.*
- *Ensure routine availability of confidential, accessible, and anonymous family planning counseling and services.*
- *Expand community awareness programs that include information on family planning, prenatal care, nutrition, breastfeeding, parenting skills, and effects of tobacco, alcohol, and other drug use on the unborn child.*
- *Assure access to a gender-specific continuum of tobacco, alcohol, and other drug treatment services for women and their families.*
- *Provide public health nurse or public health social worker follow-up to all families experiencing an infant death.*
- *Include injury prevention education as part of prenatal and well child care, as well as parenting classes.*
- *Monitor access to timely family planning and reproductive health, genetic, prenatal, well child, and pediatric services.*
- *Collect perinatal data as part of a monitoring system which will measure perinatal outcomes, including population-based and clinical data.*
- *Develop a community-based evaluation system to determine the effectiveness of outreach and case finding activities.*
- *Evaluate community based incentive programs for providing a positive reinforcement to high-risk women for keeping prenatal and postnatal appointments and maintaining healthy behaviors.*
- *Develop a system to review and evaluate the causes of each infant death to identify potentially preventable causes.*
- *Develop plans to improve the supply and distribution of perinatal service providers.*
- *Define perinatal regions to ensure accountability for care of a total population.*
- *Establish state and regional perinatal committees to ensure, provide, and coordinate activities such as planning, perinatal standards development, outcomes evaluation, data analysis, and provider education.*

Infant mortality standards

	Washington State				United States		
	Baseline			Year 2000	Baseline		Year 2000
	Year(s)	Count	Rate	Target Rate	Year(s)	Rate	Target Rate
Infant Mortality	1992	537	6.8/1000	6.5/1000	1991	8.9/1000	7.0/1000
Neonatal Mortality	1992	289	3.6/1000	3.5/1000	1991	5.5/1000	4.5/1000
Post-neonatal Mortality	1992	248	3.1/1000	3.0/1000	1991	3.4/1000	2.5/1000

Sources:
Center for Health Statistics Healthy People 2000

Nutrition

Poor dietary practices and eating behavior contribute substantially to preventable illness and premature death in the United States. For the majority of adults who do not smoke and do not drink excessively, what they eat is the most significant controllable risk factor affecting their long term health. Many Americans' diets contribute to high rates of certain chronic diseases, including five major causes of death: coronary heart disease, some types of cancer, stroke, noninsulin-dependent diabetes mellitus, and coronary artery disease.

Healthy eating patterns and good nutrition in a population improve the quality of life and can reduce the cost of health care. Improved nutrition for low income pregnant women has been shown to result in superior outcomes of pregnancy and lower Medicaid costs for mothers and newborns. Among elderly people, good nutrition improves recuperation from disease and surgery, reducing the length of hospital stays.

Lack of access to adequate and appropriate food is a major problem. Hunger can rob children of their natural human potential, and undernutrition results in lost knowledge, brainpower, and productivity.

Inadequate nutrition in a given population and the success of strategies to address the problem can be measured with indicators. Some of these indicators are risk factors such as poverty, genetics, age, ethnicity/race, and existence of disease. Others are health status indicators such as anemia, growth retardation, low birth weight, certain cancers, heart disease, diabetes, and dental caries. Still others measure access to and utilization of programs such as food assistance, health and family life education, weight loss, cholesterol screening, and eating disorders clinics. While existing data do document significant problems with inadequate diet and poor nutritional status among some groups, the magnitude, scope, distribution, and consequences of inadequate nutrition are not well known for Washington State.

A central role of public health nutrition is to provide the data and information to identify high priority problem areas and their potential solutions. Another is to assure effective, efficient, culturally appropriate strategies to improve dietary intake and nutritional status, to alleviate hunger, and improve access to appropriate food.

Intervention strategies to improve nutrition include:

- *Develop indicators of inadequate nutrition.*
- *Conduct a statewide needs assessment to establish baseline data of community nutrition services and systems, including:*

- *Nutritional status and dietary intake patterns.*
 - *Food availability, use of food assistance programs.*
 - *Ongoing coordinated efforts focusing on improving access to appropriate quality food resources to reduce hunger.*
 - *Preventative and therapeutic nutrition services for individuals and groups at risk in the community.*
 - *Nutrition related services available to those who have diseases/disorders that are affected by nutritional status.*
 - *Population based nutrition education*
- *Prioritize problem areas identified by the nutrition needs assessment.*
 - *Using the nutrition needs assessment, develop a comprehensive plan to implement community nutrition systems, to include:*
 - *Preventive and therapeutic nutrition services provided to individuals and groups at risk of developing nutrition related disorders by qualified health professionals.*
 - *A nutrition component in well care visits, prenatal visits, screening for heart disease or cancer risk factors, and medical management of conditions such as diabetes, hypertension, elevated cholesterol, HIV infection, obesity, and gastrointestinal disorders.*
 - *Assure appropriate and relevant nutrition education in the school curricula and activities.*
 - *Schools and out of home care providers for children and adults in care centers and homes to assure that meal service is based on menus that are consistent with the nutrition principles in the Dietary Guidelines for Americans.*
 - *Senior nutrition programs and other adult food and nutrition programs to provide home food services to people who have difficulty in preparing their own meals or are otherwise in need of assistance with meals.*
 - *Training of primary care providers and other health professionals on food and nutrition issues.*
 - *Promotion of community awareness of public health nutrition issues.*
 - *Establish a system that regularly monitors nutrition status and the effectiveness of community nutrition systems.*

Nutrition standards

Washington State				United States		
	Year(s)	Baseline	Year 2000 Target	Year(s)	Baseline	Year 2000 Target
Prevalence of overweight						
Ages 12-19	NA	NA	15%	1980	15%	15%
Ages 20+	NA	NA	20%	1980	26%	20%
Pregnant women	1994	35.2% pregnant WIC women	20%	NA	NA	NA
Prevalence of growth retardation						
Ages 0-1	1994	4.3% WIC infants	10%	1988	16%	10%**
Ages 1-5	1994	5.3% WIC children				
Prevalence of iron deficiency						
Children, ages 1-4	1994	24.5% WIC children	3%	1980	9% ages 1-2	3%
Women of childbearing age	1994	20.3% pregnant WIC women		1980	5% women ages 20-44	
	1994	10.3% postpartum WIC women				
Prevalence of women breastfeeding						
Early postpartum	1994	52% WIC women begin to breastfeed	75%	1988	54% at discharge	75%
Through 5-6 months	1994	22% WIC women breastfeeding at one month postpartum	50%	1988	21% at 5-6 months	50%
Dietary fat intake, ages 2 and older						
Total fat intake	1980	36% of daily energy intake	30% of daily energy intake	1980	36% of daily energy intake	30% of daily energy intake
Saturated fat intake	1980	13% of daily energy intake	10% of daily energy intake	1980	13% of daily energy intake	10% of daily energy intake
Complex carbohydrate and fiber intake						
Vegetables (including legumes) and fruits	1985	2.5 servings per day	5 servings per day	1985	2.5 servings per day	5 servings per day
Grain products	1985	3 servings per day	6 servings per day	1985	3 servings per day	6 servings per day

** Healthy People 2000 does not define "growth retardation". Washington data are for children whose weight to height ratio is below the 10th percentile (National Center for Health Statistics).

Sources:

Community and Family Health Services
 Healthy People 2000
 Washington State Survey of Adolescent Health Behaviors
 Washington State WIC Program
 Pregnancy Risk Assessment Monitoring System (PRAMS)
 National Health and Nutrition Examination Survey (NHANES)

Adolescent health

Many adolescents engage in a variety of risk-taking behaviors such as unprotected sexual activity, using alcohol and other drugs, smoking, disordered eating, and violence. While the issues of interpersonal youth violence, substance abuse, smoking, suicide, and nutrition are discussed in separate sections of this report, the inter-relatedness of risk factors and subsequent behaviors is well established.

This section addresses adolescents' use of clinical preventive services and the issue of teen pregnancy.

The risks associated with adolescent behaviors are exacerbated by their low use of clinical preventive health services. This problem pertains to all adolescents, although preventive health service utilization data is available only for adolescents on Medicaid. In 1992, only 16% of these adolescents used preventive health screening.

Many adolescents do not seek preventive health services until they fear a problem like pregnancy or a sexually transmitted disease. Health care providers are reluctant to work with teens, and parents are often unaware of the health needs of teenagers.

Teen pregnancy is a persistent issue for Washington State. In Washington, births to adolescent mothers have been increasing slightly since 1985 and now represent approximately 11% of all births. One in 15 adolescent females became pregnant in 1991, with birth rates for younger teens increasing the most.

An important factor associated with adolescent pregnancy is a history of sexual abuse. One study showed 66% of pregnant and parenting teens in Washington were sexually abused as children. By the time children in Washington reach the 12th grade, nearly one out of five have been sexually abused.

Intervention strategies to address teen pregnancy and improve adolescent use of clinical preventive services include:

- Use new measures of adolescent health status to increase the accuracy of data and ongoing assessment of adolescent health behaviors and health status. Expand surveys to include adolescents who are not in school.*
- Assure that certified health plans collect data regarding use of health services by adolescents.*
- Implement child sexual abuse prevention strategies (see Violence and Injury section).*
- Promote family planning and mental health programs that assure confidentiality and accessibility.*
- Increase the number of health providers prepared to serve adolescents, especially hard to reach teens such as who don't speak English or who are living on their own.*
- Promote school-based or school-linked multi-disciplinary health services that assure and advertise confidential services.*
- Establish peer counselor programs and support groups for teens to promote personal social skills.*
- Assure availability of vocational education and job training opportunities.*
- Promote comprehensive prenatal care that includes home visits, nutrition services, education to reduce unhealthy habits, and substance abuse treatment when needed.*

- *Promote comprehensive school-based support programs (including child care) for teen fathers and mothers to postpone subsequent pregnancies, facilitate school completion, and promote healthy parenting skills.*
- *Assure access to preventive clinical services and primary health care.*
- *Develop programs that promote parent-child communication about decision-making, values, and healthy behaviors.*
- *Educate males regarding their role in preventing pregnancies as well as the consequences of pregnancies (development of a good relationship with infant and mother, provision of care, and financial support).*
- *Provide school-based comprehensive health education that includes training in decision-making, communication and refusal skills, values clarification, the responsibility of both males and females in reproductive choices, health and social consequences of behavior, family planning, and basic life skills.*
- *Develop long-term, multi-faceted, community-based efforts to address the needs of adolescents, to promote their sense of belonging, to provide incentives for avoiding high risk behaviors (i.e. postponement of sexual activity and child bearing), and to increase public awareness of adolescent health issues.*
- *Integrate adolescent pregnancy prevention efforts with sexually transmitted disease and HIV/AIDS prevention strategies (see standard on STD and HIV/AIDS prevention).*

Adolescent health standards

Washington State					United States		
Indicator	Year(s)	Baseline		Year 2000	Year(s)	Year 2000	
		Count	Rate	Target		Baseline	Target
Adolescents Receiving Family Planning/STD Services (Title X)***							
Ages 15-17	1992	12,510	63/1000		NA		
Ages 18-19	1992	14,366	112/1000		NA		
Chlamydia Case Rate (Ages 15-19)**	1993	3,916	12/1000		NA		
% Ever Physically Abused (Grade 10)	1994	480	19%		NA		
% Ever Sexually Abused (Grade 10)	1994	428	17%		NA		
% Abstaining from Sexual Intercourse (Grade 10)							
	1994	1,477	58%		NA		
Pregnancy Rate (Age 15-17)	1992	5,450	57/1000	45/1000	1990	74/1000	50/1000
% Repeat Births (Age 18)	1992	516	23%		NA		
% Unintended Births (Age 15-17)					NA		
Motor Vehicle Injury Deaths							
Age 15-19 Women	1990-1992	287	22/1000	22/1000	1990*	33/1000	33/1000
High School Dropout Rate Women	1991-1992	16,237	6.7/1000		NA		
Suicide (Age 15-19)	1990-1992	124	12.8/1000	11.2/1000	1987	10.3/1000	8.2/1000

*The US Baseline is for persons age 15-24

**Based on a positivity rate of .068 for women under 20, the number of Chlamydia tests performed would be approximately 49,000.

*** An additional 4,359 adolescents were served in State funded clinics with no Title-X federal funds. Sources: Community and Family Health (Infectious diseases, injury prevention, Survey of Adolescent Health Behaviors), Center for Health Statistics, Healthy People 2000, Office of Superintendent of Public Instruction.

Oral health

Dental disease is an infectious disease process affecting children and adults. It may be the most prevalent yet most preventable disease known to humans. By the age of 18, over 84% of children, 96% of adults and 99% of people age 65 years and older have experienced dental disease in the form of caries (cavities). This infectious disease process and associated conditions reduce overall health and productivity, increase health care costs, and may result in pain, loss of self esteem and even death.

Over 36% of four year old preschool children in Head Start programs in Washington State need dental treatment; the highest rate of need is 80% of Native American Head Start children in Pierce County experiencing active dental disease.

The public perception — especially among those who can afford dental care or are fortunate to have dental insurance — often is that dental disease, commonly thought of as cavities, is a “natural occurrence” that deserves little attention or dollars. Oral health problems are ignored as an integral part of health; “access” is assumed to refer to medical care.

In Washington State, the lack of access to dental care is at crisis levels for low income and Medicaid eligible clients. Hospital emergency rooms are handling cases costing up to \$3000 to treat a child with infant caries (baby bottle tooth decay), a painful and debilitating dental disease which is totally preventable. Some people travel hundreds of miles to get treatment at community clinics which must turn away some children and adults needing urgent dental care.

Fluoridation of water supplies can significantly reduce the risk of dental disease, yet 2.9 million Washington residents, or 58%, do not drink fluoridated water.

Strategies to improve oral health include:

- *Develop oral health surveillance systems to document oral health status, dental treatment needs, and use of dental services.*
- *Screen all children for oral health problems at school entrance, with referrals to appropriate providers and follow up for preventive services.*
- *Identify and monitor dental health profession shortage areas on a yearly basis. Provide adequate oral health personnel in Dental Professional Shortage Areas.*
- *Require that all eligible public water systems (serving over 1000 people) be fluoridated.*
- *Raise reimbursement rates for providing services to Medicaid eligible clients. Create incentives for providing preventive services.*
- *Establish school-based sealant application programs.*
- *Establish programs to train medical professionals and other health related workers to recognize oral health problems, including detection of oral HIV symptoms, oral cancer, and infant caries (baby bottle tooth decay).*
- *Develop screening programs for children during the first year of life and pilot studies using innovative interventions to prevent caries in infants and young children.*
- *Establish program to train medical professionals and other health related workers to recognize and screen for oral health problems including HIV/AIDS, cancer and infant caries.*

Oral health outcome standards

Washington State					United States		
	Baseline			Year 2000			
				Target	Baseline		
	Year(s)	Count	Rate	Rate	Year(s)	Rate	Rate
% Untreated Dental Decay in Permanent or Primary Teeth							
Ages 6-8, All	1994	NA	17%	20%	1986-87	27%	20%
Native American	1994	NA	4%	20%	1986-87	64%	35%
African American	1994	NA	16%	20%	1986-87	38%	25%
Hispanic American	1994	NA	35%	20%	1986-87	36%	25%
Asian	1994	NA	21%	20%	NA		
Age 15, All	1994	NA	13%	15%	1986-87	23%	15%
Native American	1994	NA	25%	15%	1986-87	84%	40%
African American	1994	NA	12%	15%	1986-87	38%	20%
Hispanic American	1994	NA	29%	15%	1986-87	31-47%	25%
Asian	1994	NA	18%	15%	NA		
% of Children Receiving Protective Sealants							
Age 7-8	1994	NA	19%	65%	1986-87	11%	50%
Age 14	1994	NA	42%	65%	1986-87	8%	50%
% Children <3 years with Baby Bottle Tooth Decay (Infant Caries)							
Tooth Decay (Infant Caries)	1994	NA	13%	5%	NA		
% Children Entering School Receiving Oral Health Screening, Referral, and Follow-Up							
	NA	NA	0%	65%	NA		90%
% Persons Age 65+ Who Have Lost All Natural Teeth							
	NA			25%	1986	36%	20
%Deaths Due to Cancer of Oral Cavity and Pharynx*							
Women	1991-92	68	5.1/100,000		1987	4.1/100,000	4.1/100,000
Men	1991-92	134	10.6/100,000		1987	12.1/100,000	10.5/100,000
% Boys Using Smokeless Tobacco (Ages 12-17)							
	1992	NA	23%	10%	1988	7%	4%

Washington State					United States		
	Baseline			Year 2000	Baseline		
				Target			
	Year(s)	Count	Rate	Rate	Year(s)	Rate	Rate
% Medicaid Eligibles Using the Oral Health Care System (18-64)	1990	NA	23%	50%	NA		
% Total Population Using the Oral Health Care System (35+)	NA			70%	1986	54%	
% Total Population Served by Optimally Fluoridated Community Water Systems	1993	NA	42%	55%	1986-87	62%	75%
% Water Systems Fluoridated (Systems serving >1000 persons)	1994	NA	37%	100%	NA		100%

*Population for US baseline data is ages 45-74; population for WA baseline is all ages.

Sources

Community and Family Health Services
Oral Health Survey
Cancer Registry
Survey of Adolescent Health Behaviors
Environmental Health
Healthy People 2000

Emotional well-being of children

The cost of emotional disturbances to families, individuals, and society is very high. Often families and individuals must be in crisis before help is available; some families who recognize risk and seek assistance to prevent crisis do not find it. Identifying and addressing environmental risk factors early in life can prevent life-long impacts of serious emotional disturbances.

A person's emotional health is shaped by many forces, including biology, environment and life events. Mental health problems can be caused by a complex interaction of lifelong neurobiological and environmental factors. Serious emotional disturbances in children occur more predictably when certain risk factors or life events are present, such as: family history of mental illness, physical or sexual abuse, HIV infection, chronic and serious physical or developmental disability, heavy or persistent substance use, homelessness, and multiple out-of-home placements. Prevalence estimates for serious emotional disturbances in children range widely from 6 to 20 percent.

Continued research is needed for understanding the biologic origin of some emotional health problems. Primary prevention is the preferred, population-based approach for public health because it can address environmental factors which foster emotional disturbances.

There is evidence that two overall approaches to primary prevention are effective: 1) focused interventions for those at risk to protect against the development of serious emotional disturbances; and, 2) a more universal, population-based approach for building a strong capacity within communities and families to promote the mental health/wellness of all its citizens. Some of the most effective primary prevention strategies are those that promote health/wellness in the general population. Many European countries have demonstrated the efficacy of a population-based approach that focuses on strengths and capacities within neighborhoods and communities, including ethnic communities.

A combination of the focused and universal population-based approaches has the greatest likelihood for success given the complexity of the causes of mental health problems.

Key to the success of any prevention strategy is the collaboration of various social, educational, health, economic, medical, and business representatives who are committed to creating healthier community environments for their citizens. Public health agencies play an essential role in facilitating this multiple systems approach. Another key role is to provide data and information to assist in identifying high priority problem areas and their potential solutions. Local public health agencies can facilitate the process of involving the community, family, and individuals for designing focused interventions and population-based prevention strategies.

Strategies to prevent serious emotional disturbances in children include:

- Collaborate in plan development with interested groups, including : mental health professionals; prevention specialists; community public and private providers; families; Community Public Health and Safety Networks; consumer groups; Mental Health, Juvenile Rehabilitation, Alcohol and Substance Abuse, Children and Family Services, Medical Assistance Administration within DSHS; the Department of Community, Trade and Economic Development; the Office of the Superintendent of Public Instruction; the legislature; and other statewide organizations.*
- Research and/or develop a tool to help communities assess their capacity to promote mental health in their citizens and identify those at risk.*
- Develop in each community a plan to increase capacity to promote mental wellness, identify those at risk, and provide targeted primary prevention for those at risk.*
- Include in the Health Services Information System the collection of protected confidential data on mental health screens performed as part of well child, adolescent, and adult health screens.*
- Include appropriate screening for mental health status in all well child visits and in primary care for adolescents and adults.*
- Provide technical assistance to communities for implementing accepted intervention strategies.*
- Provide education and consultation about normal growth and development, troubling behavior causes and management, options for discipline, and family dynamics and support to parents, schools, child care and other providers working with young children.*
- Develop and maintain business/government partnerships to establish policies such as flexible work schedules, career sequencing, and family and medical leave.*
- Develop community support for informal gathering places for peer groups such as adolescents or new parents.*

Standards for emotional well-being of children

Washington State					United States		
	Baseline			Year 2000 Target	Baseline		
	Year(s)	Count	Rate	Rate	Year(s)	Rate	Rate
Estimated "possible mental health clients" (age 0-17)	1990	91,934	73/1000			NA	NA
Children (0-17) receiving outpatient mental health treatment	1992	12,870	9.5/1000			NA	NA
Child Protective Services accepted referrals (0-17)	1992	74,540	55.1/1000			NA	NA
Children (0-17) receiving Division of Alcohol and Substance Abuse Services	1992	4,145	3.1/1000			NA	NA
Suicides (age 15-19)	1990-92	124	12.8/1000	11.2/1000	1990	11.1/1000	8.2/1000
High school dropout rate	1991-92	16,237	6.7/1000			NA	NA
% of Teen births to unmarried mothers							
Age 15-17	1992	2,593	83%			NA	NA
Age 18-19	1992	3,449	65%			NA	NA

*Possible clients are defined as everyone who is or would be eligible to receive services based on income.

Sources: Center for Health Statistics Health People 2000 Office of Superintendent of Public Instruction Department of Social and Health Services

Reproductive health care

Reproductive health care enables women and men to decide whether or when to become parents, to avoid sexually transmitted diseases, and to protect their fertility so that they may have healthy pregnancies, favorable birth experiences, and welcome, healthy children. These decisions are some of the most personal and private decisions that individuals and families may make. Lack of access to timely and confidential reproductive health information and services takes a toll on individual, family, and community health typified by other problems such as unintended pregnancy, mistimed pregnancy, infant mortality and morbidity, and too early child bearing. These problems are costly both in human terms and in terms of programs needed to address them.

Unintended pregnancy: A recent national survey by the Alan Guttmacher Foundation found that 56% of all U.S. pregnancies are unintended, of which 50% end in abortion. The percentage of unintended pregnancies among teenagers is 82%. It is 77% for women ages 40-44, and 75% for poor women. Abortion statistics can be seen as an indirect measure of unintended pregnancy. In 1991, there were 30,316 reported abortions in the State of Washington, an overall rate of 25.5 per thousand women. Rates went as high as 38.3 in some counties and as high as 59.0 in some age groups.

Mistimed pregnancy: A minimum of two years between pregnancies is recommended by most medical experts to insure optimal health for both mother and baby. A short interval between birth and subsequent pregnancy sharply increases the risk of delivering a low birth weight baby. Also, the mother has not had a chance to regain her full strength; this, coupled with sleep deprivation, can adversely affect health outcomes. In 1990 in Washington, 28% of subsequent births occurred in less than 24 months. Twenty percent of births paid for by public assistance had birth spacing of less than 18 months in 1991, compared to 10% of non-public assistance births.

Infant mortality: Several studies have shown that reductions in infant mortality over the past 20 years have been due, in part, to more effective family planning. After reviewing the data on the impact of family planning on maternal and child health, the National Commission on Infant Mortality estimated that 10% of infant deaths could be prevented if all pregnancies were planned and that in 1989 alone, 4000 infant lives could have been saved if unintended pregnancies were avoided.

Adolescent Health: Problems associated with reproductive health are more pressing for young people. In 1991, there were 14,858 adolescent pregnancies reported in Washington, resulting in 8,636 live births, 44 still births, and 6,178 abortions. The birth rate for 15-19 year olds increased 22% between 1985 and 1991. Birth spacing intervals are shorter for teens; in 1991, 50% of births to young women 15-17 years old paid for by public assistance had birth spacing of less than 18 months. Eighty percent of prenatal care and deliveries to adolescents were publicly funded in 1991 at a cost of \$27.2 million.

Cost to taxpayers: The average cost of one year of family planning services to a state funded low income client in 1991 was \$75. The average cost of state funded prenatal care and delivery in the same year was \$3,228. Preliminary data from a cost/benefit analysis of family planning suggests that the state avoids from \$56 to \$80 in costs for every state dollar spent. Using Title X (joint federal/state funded) family planning clinic clients as a model, \$36 was avoided for every dollar spent of public money, \$67 for every dollar of state money.

Intervention strategies to ensure access to reproductive health information and services include:

- *Provide reproductive health care in a variety of settings such as certified health plans, community based clinics, public health departments and districts, and school based clinics.*
- *Ensure reproductive health services that are comprehensive, culturally appropriate, and include both medical services and supporting counseling and patient education.*
- *Guarantee strict confidentiality by all providers and client consent for all services.*
- *Help recruit and retain qualified providers in under-served areas.*
- *Assure that clients seeking family planning may self refer and that there is no denial of family planning care or devices based on ability to pay or insurance status.*
- *Increase collaboration between programs with services related to reproductive health such as cancer prevention, STD, HIV/AIDS, adolescent health, Medical Assistance, and First Steps.*
- *Increase availability of family planning information and services during the post-partum period.*
- *Increase family planning information and services for clients of First Steps and other prenatal assistance programs.*
- *Improve data collection and assessment of factors related to unintended, mistimed, and unwanted pregnancy.*

- Establish a 24 hour statewide clearinghouse for information on family planning information and services.
- Expand and improve age appropriate comprehensive sexuality education in schools.
- Monitor access to timely reproductive health information and services.
- Assure access to programs that offer alternatives to too early pregnancy and support for young women choosing to delay child bearing.
- Collect and analyze baseline and trend data on pregnancy spacing, especially for adolescents and grant recipients.

Reproductive Health Standards

Washington State					United States		
	Year(s)	Baseline		Year 2000 Target	Year(s)	Year 2000 Baseline Target	
		Count	Rate	Rate		Rate	Rate
% Unintended Pregnancy							
Adolescents (<17)	NA			30%	1988	82%	30%
Women 40-44	NA			30%	1988	77%	30%
Low Income Women	NA			30%	1988	75%	30%
Adolescent Pregnancy Rate (15-17)	1992	5450	57.2/1000	45/1000	1990	74.3/1000	50/1000
Adolescent Birth Rate (15-17)	1992	3112	33/1000		1990	39/1000	NA
% of Sexually Active Females (15-17)							
Using Contraceptives							
At First Intercourse	NA				1988	63%	90%
Most Recent	NA				1991	81%	90%

Sources: Community and Family Health Services, Center for Health Statistics, Healthy People 2000

Primary prevention of chemical misuse

Problems associated with and/or directly attributed to tobacco, alcohol and other drug use by Washington State individuals and families include: chemical dependency; infant death; alcohol/other drug related birth defects; child abuse and neglect; unprotected sexual behavior; school failure; economic loss; violent and criminal behavior; suicide; personal injuries and death; HIV/AIDS; cancer; heart disease; and other personal health problems.

Chemical use usually begins in childhood or adolescence. Tobacco, alcohol and other drug dependency and problems related to misuse are associated with: early age of onset of chemical use; the regular use of chemicals in childhood or adolescence; chronic use of alcohol and other drugs in adolescence; and any use of substances among children with histories of chemical abuse/dependencies within their families.

Public policy and funding to date has emphasized law enforcement and sanctions as a means of discouraging chemical misuse and abuse problems with limited success. Prevention strategies that emphasize education, skill building, bonding and changes in values and attitudes have received relatively little attention and financing. However, scientific research has shown that by reducing the factors which put children at greater risk of chemical misuse and by enhancing resiliency in our children to buffer the effects of the risk factors, we can successfully prevent alcohol, tobacco, and other drug problems.

A broad array of factors across the social environment and communities place children at risk for chemical misuse; therefore, single, narrowly focused prevention efforts are unlikely to be effective. Prevention efforts should include multiple strategies, rather than isolated components, and strategies which are integrated as a total community system.

The risk factors that are known to increase the likelihood of later chemical misuse and abuse lie in many different domains of life. To effectively reduce these risk factors and, consequently, reduce the onset and impact of chemical use, prevention services need to be built into the many systems that currently touch the lives of children and families in all these domains. Chemical misuse prevention/intervention policies and services should be provided throughout primary care, early childhood education/child care, schools, juvenile justice, mental health and other family and community-based systems.

Factors contributing to chemical misuse

Multiple and interrelated factors put children and individuals at greater risk of chemical misuse. The more risk factors present in one's life, the greater the likelihood that the individual will misuse substances. Successful prevention strategies work by reducing the factors which put children at greater risk of misuse and by enhancing resiliency in our children to buffer the effects of the risk factors.

Research has shown the following 16 risk factors increase the likelihood that youth will misuse alcohol, tobacco, and other drugs:

Community

- *Availability of drugs*
- *Community laws and norms favorable toward drug use*
- *Transitions and mobility*
- *Low neighborhood attachment and community disorganization*
- *Extreme economic and social deprivation*

Family

- *Family history of alcoholism and drug dependency*
- *Family management problems*
- *Parental attitudes and involvement*
- *Family conflict*

School

- *Early and persistent antisocial behavior*
- *Academic failure in elementary school*
- *Lack of commitment to school*

Individual/Peer

- *Alienation/rebelliousness/lack of bonding to society*
- *Friends who use*
- *Favorable attitudes toward drug use*
- *Early first use*

Other possible risk and protective factors are currently being researched. These factors should be added to the model as science confirms the linkages to chemical misuse:

- *Low self-esteem*
- *Greater levels of emotional distress*
- *Increase levels of depression*
- *Lower levels of harm avoidance*
- *Increased levels of impulsivity, hostility, or disinhibition*
- *Low religiosity*
- *Greater need for autonomy*
- *Lower need for achievement*
- *Teenage pregnancy*
- *Physical and sexual abuse*
- *Language and cultural barriers*
- *Racism*
- *Media advertising of tobacco and alcohol*
- *Labelling and identifying students as high risk*
- *Role reversal between parent and child/youth*
- *Low expectations by parent of child's success*

Research has also shown that protective/resiliency factors buffer the effects of the above risk factors. Protecting and raising resilient children by building protective factors into our communities, laws/policies, schools, and families can reduce early-age use of tobacco, alcohol and other drugs and associated problems. When we provide our children with caring and support, high expectations and opportunities for participation within community, school, and family settings, we foster resiliency.

Strategies

Effective prevention programs use strategies which reduce risk factors and enhance resiliency. Communities can use this model to identify which risk factors are most prevalent in their community and then develop strategies to increase protective factors and to successfully address these identified risk factors, ultimately reducing chemical misuse.

The practitioner at the community level needs to understand the active processes in the development of strategies: epidemiology and community input. Epidemiology consists of risk factor analysis based on the collection of data which indicate the prevalence of risk factors in a community. This analysis serves as the basis for planning, based on data and supported by research. Community input into the development of strategies comes through the collection and analysis of data indicators. After data is collected and analyzed, the community can identify the priorities for prevention programming. At this point, communities can develop strategies which will reduce the priority risk factors in

their community and enhance resiliency among their community members. By using the combination of epidemiology and local input, communities can successfully develop and implement effective chemical misuse prevention programs.

All of the strategies listed below should:

- *Be based on a comprehensive assessment of the risk factors using an epidemiological database.*
- *Address targeted risk factors and enhance protective factors/resiliency.*
- *Be culturally appropriate and accessible to the diverse populations of Washington State;*
- *Include collaboration between the community and agencies.*

Environment/Community-Based Strategies

- *Involve youth in community service.*
- *Conduct media/social marketing campaigns to educate policy makers and the public on the tobacco and alcohol industries' advertising strategies.*
- *Promote voluntary and governmental action restricting alcohol and tobacco advertising and promotion, including sponsorship of sporting and community events.*
- *Enforce laws restricting the distribution and sale of alcohol and tobacco to minors.*

Strategies in the School, Early Childhood Education and Child Care Settings

- *Establish uniform and consistent policies around tobacco, alcohol and other drug use addressing: school environment policies; school policies and approaches designed to retain and assist students involved in chemical use; and a choice of curricula-based prevention and cessation programs.*
- *Train school staff in early childhood education regarding chemical abuse and dependency, including ways to increase resiliency factors for children and networking with community resources.*
- *Support student involvement in drug-free activities including opportunities specifically designed for youth who do not ordinarily participate in school activities.*
- *Conduct school readiness and preparation training for families of school-aged children.*
- *Implement tobacco, alcohol and other substance use prevention and education in grades K-12 and institutions of higher education, including substance abuse cessation programs for students in grades 6-12 and higher education.*
- *Provide peer helper/counseling/education/mentor programs.*

Family-Based Strategies

- *Provide parenting education training including parent recruitment and follow-up support services addressing at a minimum: raising drug-free children; positive discipline; effective family communication; child growth and development; building a positive self-image; and basic child development information to assist parents in arriving at age-appropriate expectations.*
- *Provide education and support to children living in families with chemically dependent members or children living within substance abusing environments.*

Standards for primary prevention of chemical misuse

Washington State					United States			
Indicator	Year(s)	Baseline		Year 2000 Target	Year(s)	Baseline		Year 2000 Target
		Count	Rate	Rate		Rate	Rate	Rate
Regular Chemical Use (Grade 12)*								
Alcohol	1992	1203/2322	51.8%	49.2%	1992	51.3%	32.0%	
Smoke Tobacco	1992	517/2317	22.3%	21.2%	1992	27.8%		
Chew Tobacco	1992	198/2327	8.5%	8.1%	1992	11.4%		
Marijuana	1992	402/2323	17.3%	16.4%	1992	11.9%	9.0%	
Crack/Cocaine	1992	51/2525	2.0%	1.9%	1992	1.3%	1.7%	
Heavy Use of Alcohol (Grade 12)***								
Binge Drinking	1992	634/2323	27.3%	26.6%	1992	29.8%	28.0%	
Daily Drinking (Beer)	1992	26/2326	1.1%	1.1%	1992	3.4%		
Heavy Use of Drugs (Grade 12)								
Daily Marijuana Use	1992	63/2325	2.7%	2.6%	1992	1.9%		
Daily Other Drug Use+	1992	2/2326	0.1%	0.1%	NA			
Daily Inhalant use	1992	2/2325	0.1%	0.1%	1992	0.1%		
Monthly or More Cocaine Use	1992	14/2326	0.6%	0.6%	1992	1.3%	1.7%	
Monthly or More Hallucinogen Use	1992	88/2327	3.8%	3.7%	1992	2.1%		
% of 6th Graders Who Have Ever Used:								
Alcohol (Beer)	1992	1064/4749	22.4%	Increase by >1year the age of first use	1992	36.7%	Increase by >1year the age of first use	
Tobacco	1992	557/4762	11.7%		1992	10.5%		
Chewing Tobacco	1992	257/4759	5.4%		1992	11.3%		
Inhalants	1992	370/4747	7.8%		1992	10.5%		
Marijuana	1992	95/4755	2.0%		1992	4.1%		

*Any use in past 30 days; Washington target based on reduction of baseline rate by 5%.

**Numerators are the numbers of students responding positively. Denominators are the numbers surveyed.

***Washington target based on reduction of baseline rate by 5%.

+Methamphetamines, tranquilizers, uppers, downers, heroin

Sources: Community and Family Health Services, Survey of Adolescent Health, National Institute on Drug Abuse

Chemical use in pregnancy

Chemical use in pregnancy creates a number of maternal and child health problems including adverse reproductive outcomes that are common and costly. Use of tobacco, alcohol and/or drugs (both legal and illegal) can be associated with miscarriages, stillbirths, prematurity, low birth weight, infant mortality and morbidity, and/or permanent, irreversible birth defects like spina bifida and alcohol related birth defects (ARBDs).

Smoking is a significant risk factor for spontaneous abortion, premature births, stillbirths, low birth weight and overall infant mortality. Research also suggests that smoking can have adverse long term effects on a child's growth, intelligence and behavior. In a recent survey, 48% of women who delivered at a King County hospital serving high risk women smoked during the pregnancy and/or in the month prior to the pregnancy.

ARBDs are divided into two subgroups: fetal alcohol syndrome (FAS) and fetal alcohol effects (FAE). Characteristics of FAS include physical malformations, cognitive impairment, social incompetence, problems with memory and judgment, and behavioral and learning abnormalities that result in major difficulties for schools, social/welfare agencies (especially in the foster care and adoption system), criminal justice and health care systems, and above all for families.

When inadequately served, people with ARBDs place unique and complex demands on the entire community. No system of care currently exists to monitor or case manage seriously affected individuals. Treatment of individuals with ARBDs up to now has been ineffective, and affected people rarely leave the system. In fact, they frequently end up in inappropriate and costly situations such as in jail or mental institutions. Considerable research on ARBDs and prenatal use of alcohol has been performed in the past 20 years, yet there are still many questions that researchers and others need to answer.

Only more recently has research begun to explore the effects of illegal drug use in pregnancy. Less data is, therefore, available on the adverse effects of drug use than alcohol use, especially with regard to detrimental, long-term effects on the child. Researchers and others continue to be concerned about the potential adverse effects of illegal drug use. Further evaluation is needed on the effects of each drug as well as on the effects of polydrug use.

Cocaine is one drug where some data on prenatal use is available. Reported effects on women who use cocaine during pregnancy include increased blood pressure, heart rate, and contractions of the uterus; decreased flow of blood through the placenta; and a decrease in appetite. The vasoconstricting property of cocaine may account for an increased rate of abruptio placenta. Reports on the effects of prenatal cocaine exposure are inconsistent, but lower birth weight, shorter length, small head circumference, and Sudden Infant Death Syndrome (SIDS) have been reported in the literature.

Women who have given birth to a child prenatally exposed to alcohol or illegal drugs, and who are not treated for their chemical dependency, are at high risk for giving birth to subsequent children prenatally exposed to these substances. Chemically dependent women often avoid seeking prenatal care and treatment services for fear of repercussions, such as CPS referrals or incarceration. Lack of basic life skills, appropriate child care, and transportation are other reasons women using alcohol or illegal drugs during pregnancy fail to appropriately seek and use services.

Education has been shown to be effective in reducing tobacco, alcohol and illegal drug use in pregnant women who are not chemically dependent. Education alone does not impact alcohol and drug use among chemically dependent women, the ones most likely to produce the majority of children with ARBDs and other drug effects. For instance, research indicates that 70% of women who have a child with FAS give birth to a subsequent child with an ARBD (either FAS or FAE). However, screening pregnant women for alcohol and drug use and then providing prenatal care and appropriate treatment for chemical dependency has been effective in reducing adverse reproductive outcomes. By restructuring treatment programs to deal more sensitively with social, medical, legal and other issues, larger numbers of women can be retained in treatment. Research performed recently has demonstrated the efficacy of innovative advocacy and ongoing mentoring of chemically dependent women and individuals affected by prenatal alcohol/drug exposure.

Factors contributing to alcohol and drug use during pregnancy

A number of biological and social factors contribute to the use of alcohol and drugs in pregnancy. These include:

Social

Multi-generational/ environmental factors including:

Chemically dependent parents and partners, Poverty, Domestic violence, Inadequate housing, Lack of health care, Poor self-esteem, Abuse (sexual, physical, etc.)

Biological

Polydrug use, Nutrition, Patterns of Use, STDs, Genetics, Metabolism

Strategies for prevention of chemical use during pregnancy include:

- *Develop and fully implement a statewide, coordinated, comprehensive primary prevention/education program aimed at the elimination of prenatal exposures to tobacco, alcohol and drugs.*
 - *Implement a comprehensive K-12 education program about the causes and effects of prenatal exposures to tobacco, alcohol, and drugs.*
 - *Implement mass media campaigns to increase awareness among the general public about the causes and effects of prenatal exposures to tobacco, alcohol, and drugs.*
 - *Require birth defects warning signs at all Washington State purchase points for alcoholic beverages (by container and by glass).*
 - *Implement a statewide program aimed at educating primary care and other service providers (i.e. in social services, mental health, education, etc.) about the causes and effects of prenatal exposures to tobacco, alcohol, and drugs.*
 - *Develop a model for a coordinated, statewide, early identification, referral, tracking, diagnosis, and treatment program for children with ARBDs or disabilities caused by other prenatal drug exposures.*
 - *Include in the uniform benefits package appropriate services for children with alcohol and drug related birth defects and their caretakers.*
 - *Conduct population-based screening for ARBDs in all children prior to finishing first grade; screening of all children in foster/adoptive programs before placement; and screening of all siblings of individuals with ARBDs.*
 - *Educate primary care providers regarding appropriate assessment for ARBDs and other prenatal drug exposures, and appropriate reasons for referral for diagnosis and treatment.*

- *Develop community-based models which include training, monitoring, and evaluation that would:*

Empower communities, families, and caretakers to examine issues regarding these complex problems;

Accept that affected individuals have organic brain dysfunction and, therefore, have developmental disabilities;

Recognize that affected individuals can be successful if the environment around them adapts to their disabilities;

Provide cross-disciplinary, community-wide systems of support to individuals with ARBDs or disabilities related to prenatal drug exposures (e.g. community-based residence programs or specialized mentoring and long-term advocacy programs); and carry out program evaluation and use the results in ongoing program improvement.

- *Develop a model for a coordinated, statewide, early identification, referral, tracking, diagnosis, treatment and prevention program for birth mothers who have produced or are at risk of producing children prenatally exposed to tobacco, alcohol and/or other drugs.*
 - *Include the following services in the uniform benefits package: home health care and prenatal care for pregnant women who use alcohol or drugs during pregnancy, comprehensive outreach and advocacy, long-term case management, chemical dependency treatment, and family planning services.*
 - *Develop and implement systematic, anonymous biological screening at birth to establish baseline data on the incidence of illegal drug use during pregnancy.*
 - *Promote complete comprehensive tobacco, alcohol and drug assessment for all pregnant women by health and social service providers.*
 - *Develop strategies to assure access to adequate health care for women using tobacco, alcohol and/or drugs just prior to and during pregnancy.*
 - *Develop comprehensive, multi-disciplinary, culturally appropriate outreach and long-term case management models for high risk women.*
 - *Enhance the existing continuum of treatment services for substance abusing women.*

Standards for chemical use in pregnancy

Washington State					United States			
	Year(s)	Baseline		Year 2000 Target	Year(s)	Baseline		Year 2000 Target
		Count	Rate	Rate		Rate	Rate	
% Abstaining from Tobacco								
During Pregnancy	1990-92	195,416	82%	90%	1991	80%		90%
% Abstaining from Alcohol								
During Pregnancy	1992	73,550	93%	94%	1990	79%		20% increase
% Abstaining from Illegal								
Drugs During Pregnancy	NA				NA			20% increase
Prevalence Rate of Alcohol Related								
Birth Defects	1993-94	NA	1/600*	1/1000	NA			

*This figure is an estimate of the statewide prevalence rate. A survey in two Washington counties found a rate of 1/200.

Sources: Community and Family H, Healthy People 2000